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# THE SILVER WORLD

# THE SILVER WORLD

AN ESSAY
ON
THE ULTIMATE PROBLEMS
OF PHILOSOPHY

AEGIDIUS JAHN

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# PREFACE TO THE ENGLISH EDITION

In its original form this book was written in the winter of 1930–31, but it was not until the following year that its more difficult chapters were recast and somewhat expanded.

In it I have endeavoured, as it were, to lead the reader out of the known external world of the human senses into regions ever more abstract, to arrive, in the end, at the so-called "Ultimate," and to unfold a series of problems relating to this Ultimate. The last chapters of the book may be likened to a return to the small, practical human environment, and are concerned with matters which are no longer so theoretical, no longer so abstract, as the vast problems which are treated in the middle chapters.

In its main section the book inquires into the profoundest and most difficult of problems; it attacks primal and fundamental questions which the human intellect has asked itself from time immemorial, and it will offer the reader about as much as a critical thinker can say in respect of these problems in the twentieth century. The book ends, as a matter of course, on a note of resignation. We are steeped in the conviction that in human speech no answer whatsoever can be given to the ultimate problems. They are to some extent only meretricious problems, and to some extent questions which have been wrongly put to begin with; yet the ideas involved are of such tremendous magnitude that man, equipped only with a few accidental senses, and with an intellect which has been developed fortuitously in his struggle for existence, is naturally incapable of arriving at any satisfying result. Indeed, it is inherent in the nature of these questions, in their "beyondness" and their tremendous profundity, that *no* intellect, of whatever nature, can ever solve them; that they will always remain far beyond anything which a thinking subject can attain.

In respect of the ultimate questions we confess to an unrestricted agnosticism. We preach resignation, discretion in judgment, and the greatest humility.

We have become all the humbler inasmuch as we critically regard even human language as it should be regarded: as simply and solely a fortuitous product which came into existence in an external world which was, originally, only materialistically conceived. All the so-called "higher abstractions," to say nothing of the categories and the general concepts, are merely products of the fortuitously arising human intellect, and under other hypotheses might appear quite otherwise to other anthropomorphic beings. Our scepticism with regard to most of the categories—to say nothing of the old ecclesiastical ideas—can never be too extreme. We can never have complete faith in the products of human thought, especially when they are thus expanded into abstractions and generalizations; indeed, we must not believe in the existence of this category of mental products, lest we should relapse into the worst errors of the past.

I repeat: the criticism of language is the entrance-door to every critical philosophy. We value logic, of course, as the hypothesis of accurate thinking, but we can never allow it to take the lead in respect of the ultimate problems. It is and remains a modest department of the much more comprehensive science of psychology. It is the same with ethics; this, too, we value highly, yet we cannot allow it a voice in the ultimate problems.

We no longer flatter ourselves that we stand at the central point of the world-process; that the universe exists for our benefit; that our knowledge is *knowledge* pure and simple; that there can be an absolute Truth. On the contrary, our position in the universe is an extremely subordinate one. We inhabit the superficies of a starlet which has expired of old age; we are a sort of microscopic mildew of purely ephemeral duration. The starlet will become completely extinct, and with it that portion of the universe to which it belongs will presently cease to exist as an independent formation. The universe consists almost entirely of spatial and temporal *vacua.*

Of old man believed himself the fellow of angels and gods; in his tremendous greatness and importance at the central point of being. Even God did all that He performed only for

the sake of man. At the same time, in the eyes of our ancestors, the universe was incredibly small. What we have to teach in these pages is unhappily the very reverse of this. There are no words to express the modesty of our rôle in the universe.

Yet man, perhaps by reason of his too scanty knowledge, was always presumptuous. He looked for himself and his kind elsewhere than in his rightful place. Between the animals and the plants, his nearest relatives, he created, in his naïveté, an abysmal and artificial gulf. At the same time he allied himself and his destiny to beings which he believed were set over him, but which were only creatures of his phantasy and in reality did not exist. This presumption, this pride, this conceit—ought we to be angered by them? This arrogance—*c'est la vie.* Man can and could not act otherwise. To think anthropocentrically, to regard himself as the central point, to have an enormous conceit of himself and his age—this, apparently, is as necessary to man as eating and sleeping. Accordingly he built his castles in the air, and invented higher beings like himself in character, in whose existence he then believed. When he was still in his childhood he called these mental creations "Gods." Later on they were substance, spirit, teleological causes, vitalism, and so forth. In the next thousand years they will become even more abstract, and their names will have a still more exalted sound. But it will be long before man loses faith in the external existence of his own mental creations. *C'est la vie.*

We are living in a romantic age. The majority of our thinkers and writers are always ready to relapse into the errors of the romantic conception of the universe. They are so anxious to save revealed religion in a form which can be brought into a causal relation with ethics, and they grasp at everything which might shake the knowledge of the universe which has been so painfully won on scientific bases and by scientific methods alone. Although the great scientific leaders (Einstein, Planck, etc.) are not themselves of this way of thinking, there are those who nevertheless believe that they have shaken the notion of causality by certain physical findings of the last few years, and that by means of a complete distinction between lifeless matter

and its causality and the so-called total causality of organic life many ancient spectres and verbal corpses may be, in devious ways, reintroduced into science. Instead of a simple confession of our relative ignorance, people are beginning to introduce into science, under high-sounding names, a magical knowledge and a blind belief which, at all events since the days of Kant and Hume, ought no longer to appear in scientific literature.

This book of mine, then, has become a profession of a *critical* O-philosophy. We cannot equate the universe outside ourselves with zero. It would be highly improbable—and unthinkable—that *nothing* should exist. I am perfectly conscious that here I am merely uttering human words, and that the inexpressible thought lies very much deeper. My endeavour has been to show that a knowledge of the universe and a *Weltanschanung* are possible in which man and his *ego* do not occupy the central point. From such views result a series of *denials*, of tremendous denials even, which leave *almost* everything dark and obscure; with the limitation that even this darkness and this obscurity cannot be absolute, but will be broken by the very faintest gleam of light, which in the ocean of non-existence corresponds approximately with what we should describe by the words existence and life, if these words were not quite so empty.

This book will appear to many readers both dismal and repugnant. People do not willingly listen to truths of this kind, even if their protagonist has the honesty to refrain from describing them as truths, merely asserting that they are the closest to reality: much closer than the contrary opinions, which have hitherto had a more successful reception. The critical O-philosophy is not a cheerful science.

I will not flatter myself that the view of the universe which I have advanced in these pages is the only correct view, or that it may not contain a few errors. Nevertheless, it is so humble, so sceptical, so agnostic in its attitude, that it offers few vulnerable facets, since it is scarcely possible—at all events, at the present time—to speak more sceptically and more humbly, even though one is compelled at least to recognize that something somehow exists.

After so many denials, so much destruction of traditional and allegedly venerable values, this book offers one very positive sentiment: namely, *compassion*, *sympathy* with the suffering creature, and respect for suffering; the endeavour to struggle against pain and sorrow, in whatever form they appear; and, since it is not possible to abolish sorrow from the world, to bring to those poor living creatures, men and animals, as much sympathy as is possible to a similar creature on our present plane. We see, having attained to a certain altitude, that sympathy is the highest thing and the only thing that we in this world ought to feel. . . .

I owe a great debt of gratitude to the thinkers of England and America. From Bacon, Locke, and Hume to Davey and Santayana, runs an unbroken red line; repudiation of so-called positive metaphysics, faith in the external world, delight in science, aversion from pedantry, compassion for the suffering creature. These aspects of the English spirit have always attracted me. For this reason, although I am by birth and tradition a son of continental Europe, I have regarded it as my first duty to make my ideas accessible to English readers, since I believe that I have arrived, from another direction and another point of departure, at the *same* results as the foremost thinkers of the Anglo-American world, or at all events, at very similar results. I should be both rejoiced and honoured if this book should win the suffrages of at least a section of the Anglo-American reading world, and meet with an acceptance which would be at least in some degree commensurate with the pleasure which I have experienced in the preparation and writing of these pages.

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# THE SILVER WORLD

## CHAPTER I

## INTRODUCTION

THE subject-matter of this work consists of that abysmally profound, and, strictly speaking, nameless sphere, which, following the example of the Munich scholar, Friedrich Dingler, we may best describe by the orientating but somewhat colourless term, "the Ultimate."

The Ultimate, of course, cannot be grasped. If we think of a kind of mixture of all conceivable superlatives, all greatest possible distances and negations, we obtain approximately a presentiment, a foretaste, of what we have now, and in future chapters, to consider.

And although it is illogical to define by any human word a nameless, inconceivable infinity—a totality of which the intellectual comprehension must remain incomplete, an "undiscovered country" to the *n*th power—we rejoice, for purely methodical reasons, that we have acquired an almost technical expression in the simple metaphor "the Ultimate," which may bring closer to the human mind the gloomy realm of the inaccessible negative superlatives.

In actual fact, we are doing much the same thing when we indicate a mathematical unknown by an arrangement of Latin or Greek letters. We know as little of its magnitude after this somewhat similar process as we do of the Ultimate.

To this sphere of discussion belong various attempts, doomed unfortunately to failure from the outset, at a solution of the deepest problems of metaphysics, or, as we more modestly style it since Kant, "the theory of knowledge," or epistemology. The question, however, is hardly that of their solution. We seek to reach a possible, and even the most possible, critical insight into them; we want to introduce at least a faint glimmer of light into their eternal gloom. The

desire of the thinking man, however, is to penetrate to the farthest possible depth; and to gaze from a watch-tower of the utmost possible height.

Immediately, in this preliminary proposition, we have to admit that in a discussion of ultimate questions we must take refuge exclusively in merely metaphorical modes of expression. The deeper we seek to penetrate, if we would not despair of attaining lucidity for the reader, the bolder must be our metaphors. In other spheres of human knowledge it is not so difficult to attain greater lucidity and superior clarity of thought by means of metaphorical language; a picture from the world of our perceptive or imaginative faculty will immediately illuminate the obscure sphere of an abstract conception otherwise difficult to explain.

But this does not hold good for our dark realm. Its problems are styled "ultimate." Aristotle called them "the first." We speak of "the highest watch-tower" and "the deepest descent," and we mean one and the same thing. Spheres most remote from each other are brought into comparison. There are literally no more pictures, only superlatives, only local indications; the most remote members of an endlessly long imagined series. There remains the obscure feeling that this may be a question of the widest, the most hidden, the greatest, the most important—a superlative of a quality not to be indicated by any human method. All metaphors introduced relate only to empty space, to temporal sequences; they are based on questions insoluble from the beginning, or on thought-complexes correspondingly difficult to treat of. Not the least ray of light falls upon their *contents*, their peculiar essence, by whatever indefinite word we must, unfortunately, comprehend them, while unable to rid our minds of the semi-mediaeval conception which is, unhappily, still associated therewith.

The Ultimate lies darkly, darkly, somewhere at the beginning or the end of the world.

Our work will consist above all in finding out a way to this dark realm. It is perhaps no accident that the word *tao*, which in Chinese philosophy signifies approximately the Absolute,

originally denoted "the way." A good comparison for our activity may be drawn from the analogy of a mountain-climber. Like one attempting to climb the highest mountain on earth, the hitherto unconquered Mount Everest, so the investigator of our sphere must endeavour to reach the highest summit of the theory of knowledge. And this does not apply to the actual climb only, but also to the preparations for it. For a philosopher this preparatory activity is no less important than for an actual mountain-climber. If we would reach the hitherto unconquered mountain summit, we must first carefully consider from which side and by which ridge this can best be done. That was the task of the mountain guide Balmat before August 8, 1786, ere he could indicate to the explorer Saussure the way up Mont Blanc; it was the task of Whymper before July 14, 1865, that day so grim with fate; it was also the task of the young English explorers Mallory and Irving, before the disastrous ascent of Everest in the year 1924.

It is difficult in the treatment of ultimate questions to determine the right beginning, the right methods, but here too a point of departure must be found whence we may accomplish the ascent most easily. The choice of direction to be pursued is more important here than appears at a first glance.

The way to the Absolute is an attempt towards a solution of the profoundest questions to which the human mind is fain to find the answer. Yet it is always only the way, the direction; about the Ultimate itself we shall never know anything. But the way itself is already something incomprehensibly great: the feeling that we have found the direction more precisely than was possible to our predecessors is in itself ennobling. We shall take it for granted that we shall not reach the mountain summit, that we must lose the way sooner or later in the obscure mists of the Unknowable. But we are resigned; we have been very modest in our ambitions. . . .

It is a fine achievement to point out the way for later generations. They will be able, in time, to climb the real Mount Everest. But no single man will ever reach the summit of the mount of epistemology. We cannot even pursue the

image any further, or speak of the virgin white of the summit which no human foot has ever profaned. There is, practically speaking, no summit of this mountain; there never has been, never will be. Such a summit has no more existence than a North or South Pole on a map according to Mercator's projection. The comparison is so far imperfect, that in the latter case there is an easily comprehensible geometrical basis for the absence of the Poles, whereas a whole book—and that no small one—must be written in order to state the reasons why no intellect can solve ultimate problems. They burst upon our view, apparently, as insoluble and interminable, as spurious problems, but they literally do not exist, objectively speaking; it is simply that our poor intellects are so constituted as to be tormented with them, forced to face problems which from a higher watch-tower they must at once reject as non-existent.

It is enough that we make the attempt to ascend, and do not remain below like other men.

I have often told myself that it would be better not to attack insoluble problems, not to devote acumen and labour where one is doomed to failure beforehand. On the other hand, however, I still believe that in respect of these questions nothing has been said for a long time past which could be regarded as worthy of our present state of progress in the sphere of all the other sciences. It is regrettable—but we either avoid this sphere altogether, for a variety of reasons, or, if we approach it at all, we do so in such an unfortunate manner that we find it almost psychologically impossible to understand it.

If our work is to be worthy of our otherwise critical age, we must concern ourselves primarily with the mental attitude of each thinker who enters upon this difficult task. No view of the world is formed in a purely objective manner: for each has deep roots in the personality of its representative. It is impossible to arrive at a single objective world-view of ultimate questions, because every mind is influenced by its complicated subconsciousness, which in every single instance is constituted in a different way. In order to explain this more closely, I will introduce the image of a pyramid with an

immense number of steps, where each higher step has a smaller foundation than that immediately preceding it. For the majority of explorers of European-American cultured areas the lower steps are approximately the same. No one will seriously dispute that $2 \times 2 = 4$, or that lead is a metal. On reaching a higher step opinions begin to differ: it would be difficult at present to obtain a unanimous answer to the question whether the causal nexus is contained in the totality of things which happen in nature, or is to be supplied by a higher conception, through another principle. And on the highest steps of the pyramid, where there is a question of fundamental principles—whether, for example, we can proceed from our consciousness, and comprehend *all* that is there present as contents and acts of consciousness, or if we should proceed from our empirically derived world of perception, and must critically scrutinize our thereto related knowledge—to this question there are, according to the fundamental mental constitution of each philosopher, almost as many answers as there are philosophical minds.

It is reasonable to expect that in the future a complete unity of understanding will be achieved by thinkers, resulting in a generally established frame of mind; though this will be possible only if we can reach a scientific agreement upon all related questions. Only science, only objective knowledge, can create an objective platform. The greater the platform, the less room for the bypaths of individual thinkers—psychologically intelligible, indeed, but from the standpoint of philosophy itself regrettable.

We may hope that in time—although, indeed, as regards the ultimate questions no complete uniformity of comprehension will ever be reached—for such uniformity is among the practically unrealizable ideals of investigation—yet, at least in questions of fundamental principle, all investigators will exercise sufficient *self-control* to keep in equilibrium the purely subjective part of their inner selves, so that extraversions shall not occupy an undue amount of space in their systems. We have already taken a step in this direction. With but few exceptions, no metaphysical systems with positive

contents have been constructed. It is realized that the theory of knowledge is negative, and it is rather a question of the limits and mode of this negation than of any positive architecture of comprehension and philosophical poesy.

The concession that we must come to terms with the mental situation of every single thinker, the recognition of a psychology of world standpoints, is for us an important step towards the relativization of our philosophical investigation as a whole. We know that we cannot find out *the* truth, but merely at best a few different ways to truth, and we are content if we can show that the way suggested by us will prove the most possible to pursue, at all events in our time, and under its assumptions.

But even this cannot satisfy us. It is not as if there could be only *one* way to the Ultimate. There are different ways. There are different forms and elucidations of a problem; there are different aspects. Our human body is made up of a countless number of cells; these cells consist of protoplasm; protoplasm is organic matter; matter is a form of energy, i.e. congealed radiations; but all these findings of research are phases of an unknown, which in its true essence must remain forever unknowable. There is, however, no essence, no substance. Is the "thing-in-itself" a limit-conception? Or is it a spurious conception? Conceived more profoundly, everything that we can possibly imagine is still a kind of illusion, enveloped in various kinds of transcendency, so that the question has not even been asked whether outside of us anything real exists. All these hypotheses express in their particular way some "truth" or other. One is based on the biological sphere, another on the physical, and the third on the epistemological; but the confession of our ignorance is the only proposition concerning which we are in agreement, in the old metaphysical sphere. And now, if we wish to occupy ourselves with the Ultimate, we could certainly begin and end with this confession, but little enough would be done thereby in the sense of our undertaking. On the contrary, we must review all the aspects adduced; we must examine the unknown under different lenses, and observe it from different sides.

In this volume I shall attempt to bring together the scientific —i.e. the empirical—branches of knowledge, to enter further into the deeper regions of epistemology, and to construct a kind of common platform upon which science as well as philosophy will have something to say. At first sight it would seem that this is and must be an innocuous undertaking. As a philosopher one must not ignore what the astronomers, the biologists, and physicists—to say nothing of the other men of science—have achieved in their own spheres. And this means nothing more or less than a confession of the so-called O-philosophy, which refuses to confine itself to the facts of the conscious processes, and accepts the existence, in some form or other, of some kind of external world of perception —indefinable according to epistemology, to say nothing of metaphysics. The philosophers of pure consciousness, the S-philosophers, will of course refuse to concede this, regarding those thinkers who have come to some sort of terms with the external world as though they had been guilty of a misdemeanour in refusing to abandon the so-called "realistic prejudice."

Adherence to the O-philosophy in these days is not easy. The great majority of professional scholars regard these attempts to bring the conclusions of science into harmony with those of epistemology with scepticism, and even with some contempt. The pure natural scientists, even if unconsciously, take somewhat the same point of view, since they too exclude from their investigations anything that looks like metaphysics as unscientific and disputable, and all the related questions diverge widely from their line of research.

And yet I think I must join hands with those who on the basis of physical, astronomical, and of course biological science, attempt to find the way to the Ultimate; or in other words, who endeavour to attach to these sciences a superstructure of epistemology, so as to furnish a philosophical view of the world. I shall not exclude the arguments of the philosophers of pure consciousness in so far as they are in harmony with controllable science. Still, I do not think I can follow them to the point where their doctrine leads, as it must consistently

lead, to the solipsistic blind alley, and I distrust the over-emphasized line of cleavage which divides the highly esteemed psychical "primary experience" (the primary sense-datum) from the undervalued contents of consciousness which apparently arise from the remaining external world.

The present day is unfortunately rather averse from every philosophy. We have experienced in this sphere a kind of decadence, which is from year to year more noticeable. This need not be taken very tragically, as the problems treated of here—at present so little considered—are so great and so important that humanity will inevitably return to them. The momentary lack of appreciation is the result of the impossibility of reaching a result. It is not everyone's business to work where one knows definitely that nothing can be looked for but resignation and the renunciation of any positive conclusion. This disinterested attitude to ultimate questions may be explained, but it is harder to excuse the attempts which are made in different quarters to treat ultimate questions as though the extraordinary ascent in all spheres of science, and the great achievements in philosophical criticism with which we must credit the nineteenth century and the beginning of the twentieth, were simply non-existent.

I venture to hope that this is merely a transitional phase. Philosophical culture grows not in depth but in breadth. It would be interesting to determine how many millions of men in these days are interested in the deeper problems of this sphere of thought. There have been times when only a few thousand, nay, a few hundred human beings have adopted any attitude whatsoever toward these questions. I will not even venture to ask whether until three hundred years ago there was a single person in all the world who (taking into consideration the intellectual situation of the period) was in a position to approach these inquiries of ours with a mind entirely free from prejudice. If it is objected that in Europe there can hardly have been such a person, but that India, at every period of its history, has been able to show a large number of profound thinkers, without whom the numerous commentaries and continuations of the Upanishads would not

have been possible, I veil my face mournfully, reflecting that the few pretended or actual thinkers of India disappear in the ocean of blackest magic and deepest superstition—just as the few stakes prepared at the beginning of the seventeenth century to dispose of the few free minds in Europe disappear in the deep sea of European ignorance. . . .

Buddha and Confucius do not count in this connection. They are ethical thinkers, but for ultimate questions in the modern sense they have only a limited historical significance.

We rejoice over the general diffusion of the philosophical frame of mind, even when it keeps closely to the surface. For this reason we must admit that in this sphere there is a lack of outstanding achievement, and that at present we have little hope of living to see a synthesis of the fundamental opinions effected by some really great intellectual achievement.

And here it is not unfitting to name the intellectual leaders who are deserving of praise—with regard to the ultimate questions here considered—for the right enunciation of the problem, and the courage to accept without alarm the conclusions derived from their mode of viewing things.

In the first place, I shall mention the *German* thinkers, whom I have found more intellectually accessible, and by whom I must confess that I have been more definitely influenced; and later I shall speak of the *English* philosophers to whom I am indebted for the development of my mode of thought.

I willingly confess that in respect of critical philosophy I esteem no one more highly than Fritz Mauthner, who has, of course, been dead these thirteen years, and whose achievements, with few exceptions, have been almost hushed up by the official philosophical thinkers of to-day.(1)* For some time I believed that I overvalued this thinker; I tried to revise my opinion of him, and I sought for years for the man who deserved to be ranked with him in respect of his work in critical philosophy. But in vain. His consistent criticism of language, which shows us that the most respectable abstracts of our speech are only metaphors and corpses of words, corresponding to spurious concepts, thus influencing and burdening our thought as with

* Footnotes will be found at the ends of chapters.

heavy iron chains—and his clear, firm glance, which was unaffrighted by the most venerable prejudices of our Occidental thought, have still to find their equals. I would cheerfully compare his achievement with the mental revolution brought about by Copernicus and Kant in the Occident. His time is not yet come. Of the later philosophers I would set in the first place Richard Müller-Freienfels,(2) who in his works opens up some profoundly penetrating aspects of the Ultimate; Hans Vaihinger, with his revolutionary doctrine of fictions(3) is great in his way; and we owe many critical judgments to Heinrich Maier.(4) With these are associated the *natural* philosophers in the narrower sense of the word. Next to the now almost classical Wilhelm Ostwald I will name in the first place the great creator of the theory of relativity, Albert Einstein. Although not precisely a philosopher, by his abysmally profound meditations on the essence of the cosmos and its laws he has exercised more influence than many professional philosophers. Even though the future may revise many of his fundamental views, his importance for the development of European thought in our century is immeasurably great. Of the advocates of his doctrine I should give first place to Hans Reichenbach.(5) His scientific and popular writings have endeavoured to bring the doctrine of natural science into harmony with philosophy. Of the English promulgators of Einstein's doctrine I shall say something later. And now we come to *English* philosophy.

In support of the *Weltanschauung* advanced in these pages I can cite many Anglo-Saxon thinkers. First among these I will mention the American philosopher George Santayana. In this thinker I have found an extremely important ally for many of the doctrines propounded in this book. The able and convincing manner in which Santayana opposes the attractive, conventional solipsistic theory of knowledge dear to Continental philosophy, the way in which he rends its constricting cobwebs, has filled me with genuine admiration and joy.(6) But his bold examination of the scientific groundwork of such philosophic thought as is to be taken seriously,(7) besides his finely propounded and more liberal scepticism in respect of

the highest problems,(8) in which he shows himself completely averse from any sort of dogmatism, and even calls his own thoughts in question, cannot be too highly esteemed. Further, his appreciation of the materialistic hypothesis of work,(9) his estimate of the great figures of antiquity, his attitude towards Catholicism,(10) his calmly virile denial of personal immortality,(11) and even his rejection of the content of Bergson's philosophy (12)—to mention at random only a few characteristics of Santayana's thought—all contribute to underline the importance of thought in respect of a proper and critical attitude towards ultimate questions. The views advanced in these chapters find a brilliant ally in the philosophy of George Santayana.

Among other English thinkers, I have a great esteem for Professor S. Alexander, who in his realistic theory of knowledge sometimes goes farther than I myself should venture to accompany him.(13) With this name, however, the series of Anglo-Saxon thinkers with whom I am in agreement is not yet concluded. For years I have been in sympathy with John Dewey,(14) who in his profound respect for objective science and his contempt for the spurious problems of a certain kind of philosophy is a most highly valued colleague. And I have a high esteem for the very numerous, easily understood, yet profound writings of Bertrand Russell.(15) It is no wonder that Englishmen are in the forefront of those who have come forward as the exponents of an O-philosophy based on science. Since the early Middle Ages England has been the refuge of empiricism and nominalism, and to mention only the names of William of Occam, Francis Bacon, Hobbes, Locke, and above all David Hume, we have a centuries-long tradition, against which the tendencies hostile to education, which are still exceptionally powerful in the Anglo-Saxon countries, were powerless to do much harm. There are to-day, unfortunately, some philosophies which are hostile to science, and treat its conclusions with contempt. Under such circumstances one may experience a genuine joy that especially in America, where it is so difficult to cope with tradition, a man like Dewey has been found who seeks at least to save the Western hemisphere

from falling into the blind faith with which all Europe is at present threatened. For it is indeed nothing less than blind faith if to-day men profess to doubt that the sun will rise to-morrow, that they may babble of the plans and the free will of the Creator, and interpolate Biblical texts in the midst of a discourse on natural science! (Cf. p. 376.)

The greatness, and at the same time (from the Continental standpoint) the one-sidedness of the Anglo-Saxon philosophers consists in this, that for them the noble achievement of Kant, the view that we know only the appearances of things and not things "in themselves" (the *Ding an sich*), does not seem to have the significance that it has for us in Continental Europe. As a result of their fundamental orientation and their chosen limitations, the problems for which Kant's discovery, as a principle, is so important, do not come within their purview. For a typical Middle-European thinker, that one must not surrender Kant has the force of a dogma. Without first assuming a definite attitude in respect of this great thinker one can scarcely advance an opinion. From the Continental standpoint this is certainly justified, but there are worlds in which things have proceeded otherwise. The Absolute, the great Neutra, ultimate questions, the thing-in-itself, occupy very little room in English philosophy. It would be idle to attempt to decide whether this aloofness, which one may seek to explain in various ways, is to be reckoned as a plus or a minus in comparing the English mind with the Continental. From the standpoint of a higher synthesis both kinds of philosophy are of exceptional value, and if we wish to occupy ourselves with ultimate questions both standpoints must be taken into account. As a final result of this examination I shall find it advantageous to retain the English O-point of departure and the English methods, even while following them into spheres with which hitherto only German speculation has been engaged. The profundity of German speculation must be preserved, yet this must be influenced by the concrete standpoint and the more realistic hypothesis of English thought, and safeguarded against the one-sidedness that tends towards solipsism.

In connexion with such a subject-matter as we shall deal

with here, it stands to reason that one must consider the opinion of other philosophers. For the purposes of the present volume the older classical philosophers were of less value than Arthur Schopenhauer (16) and Paul Deussen (17), and on the other side Ludwig Feuerbach,(18) Friedrich Jodl,(19) and above all Ernst Mach.(20)

That I should quote these men, especially Ernst Mach, will surprise no one. And those philosophers who have proceeded from other principles must also be considered: above all Hans Driesch,(21) Hugo Dingler,(22) Edmund Husserl,(23) and Martin Heidegger.(24) I would make very special mention of Robert Reininger, (25) who indeed appears as a consistent S-philosopher, but who is distinguished by his strictly logical manner of thinking out his problems. Reininger's achievement will interest us, especially when we come to discuss the radical difference between the two chief philosophic standpoints of knowledge. The philosophies of other peoples have contributed comparatively little that will facilitate the development of our theme.

Nevertheless, I must not forget to mention a few eminent professional men of science, more especially Sir James Jeans,(26) Sir Arthur Eddington,(27) and Svante Arrhenius.(28) To the names of these astronomers I must add those of many writers on natural philosophy, especially those of the circle of the Stuttgart "Kosmos-Verlag," such as Wilhelm Bölsche, Friedrich Kahn, and Wilhelm Mayer. I have also considered the philosophical writings of Kurt Lasswitz.(29) I attach great value to medical authors. In my opinion their importance for the evolution of philosophical thought cannot be over-estimated. Foremost among such thinkers is Sigmund Freud (30) with his psycho-analytical colleagues. The medico-philosophical author Emil Blum (31) must not be left unmentioned.

Other philosophical literature has relatively little to offer us. Of French thinkers I am greatly indebted to old Pierre Bayle with his immortal Dictionary; Voltaire's *Candide* influenced me at an early age; in many respects I have always venerated Auguste Comte; but the more recent philosophical literature has offered me comparatively little.(32) Henri Bergson

has completely disappointed me; and unfortunately I must say the same of William Stern and Benedetto Croce; also of Keyserling and Albert Schweitzer.

The reader must pardon me if at this point I am guided too much by my feelings, and leave many highly esteemed names unmentioned. I have had to write a complete literary history of philosophy, and have been obliged to deal with the individual heroes of thought accordingly as I have learned much or little from them, have found their outlook sympathetic, and have or have not availed myself of their writings in support of my views. Otherwise this book would have attained immoderate dimensions, and this I was anxious to avoid. The selection which I have made embraces the most important names of those who have influenced me most. Others I have thought it best to leave unmentioned.

Above all, I have considered it my ethical duty to write this book. In these days there are published the most preposterous books and treatises of an allegedly philosophical nature, books which are marked by an incredible partiality and lack of critical faculty. Nevertheless, they are swallowed whole, and have a very wide circle of readers, for these questions always excite interest. They are, however, unduly superficial.

In this book I have taken pains to approach the truth as nearly as possible, to consider all the problems discussed from the highest possible standpoint. The deductions from the doctrines here developed are, necessarily, mainly of a negative character. If they are transferred to the purely human sphere they result in resignation and melancholy. I admit that critical philosophy knows no solution of the highest problems, and is no joyous science. In spite of this, it is our duty to concern ourselves with unanswerable questions, and at least to make an attempt to reach the mist-shrouded summit of the high mountain-range of epistemology. To reach it is of course impossible. We must inevitably return to the lowlands. But we can return as travellers strengthened and purified by the strong air of the mountain heights. Our horizon is widened, and our ethical sense is uplifted if we have occupied ourselves with ultimate questions, if we have sought to project

our thoughts into the real coherence of facts which must assuredly appear incomprehensible, but which represents the highest to which the mind of man can aspire on this earth.

## NOTES

1. Cf. the fine recognition in Raimund Schmidt's *Geschichte der Philosophie in Einzeldarstellungen* (History of Philosophy in Isolated Presentations), Leipzig, Meiner, 1922, Part III, p. 131 et seq., and the biography of Fritz Mauthner by Theodor Kappstein, *Fritz Mauthner, der Mann und sein Werk* (Fritz Mauthner, the Man and his Work), Berlin-Leipzig, Gebrüder Paetel, 1926. From the writings of Mauthner himself I quote *Kritik der Sprache* (Criticism of Language), in three volumes, third edition, Leipzig, Meiner, 1923; *Wörterbuch der Philosophie* (Dictionary of Philosophy), in three volumes, second edition, Leipzig, Meiner, 1923; *Geschichte des Atheismus im Abendlande* (History of Atheism in the Occident), in four volumes, Stuttgart-Berlin, Deutsche Verlagsanstalt, 1920–1923. Unfortunately there is no English translation of his works.

2. The most important work of R. Müller-Freienfels, *Die Metaphysik des Irrationalen* (The Metaphysics of the Irrational), was published in Leipzig by Meiner, 1927. How far I am in accord with the fundamental ideas of Müller-Freienfels, and how far I am of another opinion, will be seen in the discussion of the irrationality of perception (p. 211). I would draw special attention to the views developed on pp. 454, 460, and 472 of his work. In the section treating of the Absolute I have taken into consideration pp. 306, 331. With the opinion expressed on pp. 331, 352, and 477 I do not agree. Further, his theory (which to some extent reminds us of Bergson) of a weak *dieu se fait* (p. 479) is not very successful, as I try to explain on pp. 98 ff. and 127 f. of this work. Nevertheless, Müller-Freienfels's book is highly critical and full of profound thought.

3. Hans Vaihinger, *Die Philosophie des Als ob*, eighth edition, Leipzig, Meiner, 1922. The English translation, *The Philosophy of "As If,"* by C. K. Ogden, was published by Kegan Paul, London, 1924.

4. Heinrich Maier's principal work, *Wahrheit und Wirklichkeit* (Truth and Reality), was published by J. B. Mohr in Tübingen in three volumes (1926–1935). Worthy of note are his discussions of Euclidean space (II, 319). His rejection of the Absolute (I, 68) is worth reading. Cf. also I, 73, 563, and 566. The last part is, in my opinion, based too much upon logical principles, the importance of which is obviously overestimated. I am unable to accept its prin-

ciples, especially his treatment of the universal subject (pg. III, 152 ss, 427 ss, 530 ss).

5. I have taken into special account Reichenbach's work, *Philosophie der Raumzeitlehre* (Philosophy of the Doctrine of Space-Time), Berlin, Walter de Gruyter, 1928, and the popular, easily understandable *Kosmos und Atom* (Cosmos and Atom), Berlin, Deutsche Buchgemeinschaft, 1931. The latter book, *Atom and Cosmos*, translated into English by S. E. Allen, is published by George Allen & Unwin, London, 1932.

6. I mention here, in the first place, Santayana's excellent essay entitled *Scepticism and Animal Faith*, London, Constable & Co., 1923 (written while the author was in Europe, but valuable as an epistemological introduction to his philosophy as a whole). For example, consider the following passages: "We are not asked to abolish our conception of the natural world, nor even, in our daily life, to cease to believe in it; we are to be idealists only north-northwest, or transcendentally; when the wind is southerly, we are to remain realists. . . ."—"I should be ashamed to approve of views in which I did not believe without discussion. It would seem to me dishonourable and cowardly to fight under other colours than those under which I live. . . ."—". . . and therefore no modern writer is altogether a philosopher in my eyes, except Spinoza. . . ."—"Instead I have frankly taken nature by the hand, accepting as a rule in my farthest speculations the animal faith I live by from day to day." There is also a superb passage in his essay, *Reason in Common Sense* (New York, Charles Scribner's Sons, 1911), p. 93. I am greatly indebted to the later works of this thinker, *The Realm of Essence* (London, Constable & Co., 1928) and *The Realm of Matter* (London, Constable & Co., 1930), which, however, have appeared too recently to be utilized to my satisfaction.

7. Cf. *Reason in Science* (New York, Charles Scribner's Sons, 1906), p. 318, also pp. 75, 131, 136, 297; *Reason in Common Sense*, pp. 96, 189, 211, 214, 219; *Scepticism and Animal Faith*, pp. 218, 237, 257, 271, 287; *Winds of Doctrine* (New York, Charles Scribner's Sons, 1913), pp. 150, 119.

8. Cf. *Scepticism and Animal Faith*, p. v (Introduction). "Here is one more system of philosophy. If the reader is tempted to smile, I can assure him that I smile with him, and that my system differs widely in spirit and pretensions from what usually goes by that name. In the first place, my system is not mine, nor new. I am merely attempting to express for the reader the principles of which he approves when he smiles." Santayana is modest enough to believe that besides his own system other systems are possible. "My endeavour is to think straight in such terms as are offered to me, to clear my mind of cant and free it from the cramp of artificial tradi-

tions, but I do not ask anyone to think in my terms if he prefers others. Let him clean better, if he can, the windows of his soul, that the variety and beauty of the prospect may spread more brightly before him."

9. *Scepticism and Animal Faith*, p. vii: "Now in natural philosophy I am a decided materialist—apparently the only one living." "But my materialism, for all that, is not metaphysical. I do not profess to know what matter is in itself. . . ." This is the standpoint of the work. "I wait for the men of science to tell me what matter is, in so far as they can discover it. . . ." "But whatever matter may be, I call it matter boldly, as I call my acquaintances Smith and Jones without knowing their secrets."

10. *Reason in Religion* (New York, Charles Scribner's Sons, 1913), p. 240: "The fact that man is born is no favourable premonition of immortality."

11. Cf. *Reason in Religion*, pp. 4, 27, 28, 34, 103, 125, 130, 137, 172; *Reason in Common Sense*, p. 128.

12. *Winds of Doctrine*, p. 107 (cf. note 96) of this work.

13. Only in the treatment of the highest questions—see his work *Space, Time and Deity* (London, Macmillan, 1927, in two volumes)—does it occasionally seem to me that the non-empirical conception of Godhead, of which the reality is to some extent simply assumed, according to epistemology, is to be treated with a certain reservation, in spite of the fact that S. Alexander boldly *denies* the existence of an infinite God (cf. loc. cit., Part II, pp. 345, 347, 353, 358, 363). Consider next the very definitely *critical* passages (II, pp. 344, 350, 362, 365). Cf. also Walshe, *Quest of Reality* (London, Kegan Paul, 1934), p. 484.

14. All the works of John Dewey cannot be enumerated here. Those which receive most consideration in these pages are *Reconstruction in Philosophy* (New York, 1920), *Human Nature and Conduct* (New York, 1922), and *Experience and Nature* (London, George Allen & Unwin, 1925). For orientation, too, Will Durant, *The Story of Philosophy, The Lives and Opinion of the Greater Philosophers* (New York, Simon & Schuster, 1926), should be considered.

15. Of Bertrand Russell's writings those to be considered here are his *Analysis of Mind* (London, 1921), *Analysis of Matter* (London, 1927), *Sceptical Essays* (London, George Allen & Unwin, 1928), *Marriage and Morals* (London, George Allen & Unwin, 1929), *The Conquest of Happiness* (London, George Allen & Unwin, 1930). Cf. also Note 76 and Note 143.

16. Schopenhauer's writings are too well known to need specific mention. There are many editions, e.g. Leipzig, Brockhaus, 1919, in six volumes; ed. Paul Deussen, Piper, Munich, 1911, in fourteen volumes, etc. The English translation of Schopenhauer's most

important works are *Die Welt als Wille und Vorstellung* (The World as Will and Idea), three volumes, by Viscount Haldane and J. Kenys (London, Kegan Paul), and *The Basis of Ethics* (*Ueber das Fundament der Moral*), a translation by A. B. Bullock (London, Kegan Paul, 1901). It will be understood that I have derived most from his *Die Welt als Wille und Vorstellung*. Of course, the literature on Schopenhauer has now become too vast to be taken in at a single glance, so that no one can be sure, in interpreting Schopenhauer's position, that he is not involuntarily influenced by some earlier interpreter or literary historian.

17. Of Deussen's work I think most of his fundamental little treatise, *Elemente der Metaphysik* (Elements of Metaphysics), sixth edition, Leipzig, Brockhaus, 1919. Further, for Indian philosophy, his authoritative *Allgemeine Geschichte der Philosophie und Religionen* (General History of Philosophy and Religions), in six volumes, Leipzig, Brockhaus, 1906–1920. Among other works his *60 Upanishaden des Veda* (Sixty Upanishads of the Veda), Leipzig, Brockhaus, 1921, must be mentioned. The introductory portions of this work are of special importance. English translations of Paul Deussen's works are *The System of Vedanta*, by C. Johnston (London, Luzac, 1912), and *Thirteen Principal Upanishads*, translated and edited by R. E. Hume (London, Oxford University Press, 1931).

18. Apart from his other works, Feuerbach's *Entstehung des Christentums* (Origin of Christianity) is of most importance for me (Leipzig, Reclam, 1907, in two volumes). There is no English translation.

19. Of the writings of Friedrich Jodl I am most grateful for his *Kritik des Idealismus* (Criticism of Idealism), Leipzig, 1920.

20. Of the many well-known writings of Ernst Mach I will mention first his *Analyse der Empfindungen*, ninth edition, Jena, Fischer, 1922; English translation, *The Analysis of Sensations*, new edition, Open Court Co., London, 1912; *Erkenntnis und Irrtum* (Knowledge and Error), fifth edition, Leipzig, Barth, 1926. Another English translation is *Space and Geometry* (London, Kegan Paul, 1906).

21. Of the many works of this well-known scholar and philosopher those made use of here are chiefly *Die sittliche Tat*, Leipzig, Reinicke, 1927 (English translation by W. H. Johnston, *Ethical Principles in Theory and Practice*, London, George Allen & Unwin, 1930), and *Der Mensch und die Welt*, Leipzig, Reinicke, 1928 (English translation by W. H. Johnston, *Man and the Universe*, London, George Allen & Unwin, 1929). The same author published in the English language (partly originals, not translations): (1) *Science and Philosophy of the Organism*, London, Black, 1908; (2) *The Problem of Individuality*, London, 1914; (3) *Mind and Body* (*Leib und Seele*), translated by T. Bestermann, London, Methuen, 1927; (4) *The Crisis in*

*Psychology*, second edition, London, Melford, 1925; (5) *Possibility of Metaphysics*, London, Faith Press, 1930.

22. The following works of Hugo Dingler are considered in this volume: *Der Zusammenbruch der Wissenschaft und der Primat der Philosophie* (The Collapse of Science and the Primacy of Philosophy), Munich, Reinhardt, 1926, and *Metaphysik als Wissenschaft vom Letzten* (Metaphysics as the Science of the Ultimate), Munich, Reinhardt, 1929.

23. Edmund Husserl: *Logische Untersuchungen* (Logical Investigations), in three volumes, third edition, Halle a.d. Saale, Niemayer, 1922; further, *Ideen zu einer reinen Phanomenologie und phanomenolog. Philosophie*, Halle a.d. S., 1913, and the same work in English, *Ideas, a General Introduction to Pure Phenomenology*, translated by W. R. Gibson (London, George Allen & Unwin, 1931).

24. Martin Heidegger, *Sein und Zeit* (Being and Time), Book I, second edition, Halle a.d. S., Niemeyer, 1922.

25. Robert Reininger: *Das psychophysische Problem* (The Psychophysical Problem), Vienna, Braumüller, 1930, and *Die Metaphysik der Wirklichkeit* (The Metaphysics of Reality), Vienna, Braumüller, 1931. This second book is especially worthy of consideration.

26. Of Sir James Jeans's writings those taken into consideration here are: *The Universe Around Us* (Cambridge, 1929, third edition, 1933; *The Mysterious Universe* (Cambridge, 1931); and *The Background of Science* (Cambridge, 1933). For the sake of brevity I will refer to the first of Jeans's works, *The Universe Around Us*, always as I, the second, *The Mysterious Universe*, as II, and the third, *The Background of Science*, as III, with the page numbering in Arabic numerals.

27. The following works of A. S. Eddington are of great importance for this book: *Stars and Atoms* (Oxford, Clarendon Press, fourth edition, 1929); *The Nature of the Physical World* (Oxford, 1930); *The Expanding Universe* (Cambridge, University Press, 1933). The last work, *New Pathways in Science* (Cambridge, University Press, 1935), appeared too late to be utilized here.

28. Of the writings of Svante Arrhenius I would make special mention of (*a*) *Worlds in the Making* (London, Foulis, 1912; German translation, Leipzig, Bamberger, 1921; (*b*) Arrhenius–Lundmark, *Die Sternenwelt* (The World of Stars), Leipzig, 1931; (*c*) By the same author, in the English language, *The Life of the Universe* (London, Harper, 1909); (*d*) *Quantitative Laws in Biological Chemistry* (London, Bell, 1915).

29. Kurt Lasswitz: *Seelen und Ziele* (Souls and Purposes), second edition; *Wirklichkeiten* (Realities), both published in Leipzig, by Ellischer, 1908.

30. The following are the most important works of Sigmund

Freud considered in this book: *Jenseits des Lustprinzips*, Vienna, Psychoanalytischer Verlag, 1923; *Die Zukunft einer Illusion*, Vienna-Berlin-Zurich, Psychoanalytischer Verlag, 1927, translated into English, *Beyond the Pleasure Principle* (London, George Allen & Unwin, 1922); *The Future of an Illusion* (London, George Allen & Unwin, 1928). Here, too, I must mention a very profound work by Wilhelm Lange-Eichbaum, in which the critical attitude is beyond reproach, *Genie, Ruhm, Irsinn*, Munich, Reinhardt, second edition, 1935, especially pp. 158–161, 282–289. The English translation (1931) is entitled *The Problem of Genius*, London, Kegan Paul, 1931.

31. Emil Blum, *Lebt Gott noch?* (Does God Still Live?), Vienna, Cerny, 1933.

32. A notable exception is offered by Jean Marie Guyau, *L'Irreligion de l'Avenir*, Paris, fifteenth edition, 1912, and by his stepfather, Alfred Fouillée, *L'Evolution des Idées-forces*, seventh edition, Paris 1921. Finally, the somewhat less esteemed (in professional philosophical circles) but for our purposes very important Felix le Dantec, *L'Atheisme*, Paris, 1907, and *Les limits du connaissable*, Paris, 1903.

## CHAPTER II

## THE QUESTION OF METHOD

THERE are two points of departure from which we may attempt to ascend the epistemological summit. One way leads from within ourselves, from our consciousness, and experiences the external world of our senses as something secondary, sometimes as something non-existent. The total external experience is interpreted in this mode of consideration only as the contents of consciousness. As to what these contents of consciousness may be (if anything), and what corresponds to them, apart from our *ego*, there is of course a great difference of opinion. Most of the philosophers of this way of thinking agree that the character of immanence must be ascribed to our experience, and equally to all which it communicates to us of the alleged external world; that the question with regard to its origin is falsely stated, and is based merely on the so-called realistic prejudice, which unfortunately dominates our intellect.

At a later stage of this work we shall have to examine these views more closely. They are the more important inasmuch as they are shared by the great majority of living German philosophers. Here we can only remark that the point of departure from the deepest kernel of our *ego*, from the so-called "primary experience," permits of the erection of a theory of knowledge only on the basis of a solipsistic method. Whether we openly admit this, or whether we make use of a circuitous route, or some other conceivable connection, we must at least, for the time being, consider the hypothesis that there is nothing else besides our *ego*, nay, that apart from the momentary present there *can be* no past and no future. There are, of course, various ways in which the method of the solipsistic present can be built up, completed, extended, and deepened; taking it as a basis, we can arrive at various conclusions; but it also remains the sole possible point of departure for an S-philosophy —which profits by its methodical advantages in its completed edifice and its mode of expression. At the same time the traces

of the manifold violence which solipsism does to natural human sentiment cannot be effaced. Every S-philosophy must sooner or later be entangled in difficult contradictions, or abandon at the outset the attempt to give us an answer to the most important questions.

Our mode of *Weltanschauung*, and our way to the Ultimate, proceeds from another starting-point, from another aspect. We desire, first of all, to regard the world surrounding us, the world of our senses, quite objectively, and therewith, *for a time*, not merely to forget that according to the S-philosophers, the world-picture formed by our senses as against the "primary experience" is not only something secondary, but something much less "real" than the "primary experience": we will also forget, at the beginning of our examination, that all that the senses communicate, as regards the external world, is said to be merely the content of consciousness, and, as Kant would say, may be merely appearances of something in itself unknowable.

In contrast to the solipsistic point of departure of the S-philosophers the term "materialistic method" seems to force itself upon us. It seems, namely, as though at the outset we shall have to avail ourselves of no philosophy, but simply a kind of naïve realism with a strongly materialistic flavour.

This designation might perhaps be justly applied to the beginning of our efforts. It is always valid for the practical life of mankind as a whole, so long as mankind is not occupied with philosophy, but lives, as it must, chiefly in order to be able to live. But it would be misleading if we were to tend towards dogmatic materialism, which, of course, is as far removed from us as from the philosophers who set out from other assumptions.

We shall deliberately regard the world of perception, *for a short time only*, as though we could trust our senses and our intellect, but only in order to gain a *point of departure*. If we were to reject this *Weltanschauung* entirely we should throw away resources of exceptional importance—the results of a thousand years of human investigation—the only thing

which can be intellectually controlled, and concerning which it is possible to reach an agreement.

If we did not take any account at all of the colossal achievements of the natural sciences, of which we may justly be so proud, we should be no better off than the Greeks of the so-called "late period," who, without the resource of empirical science, endeavoured to oppose the invading superstitions of the East: an attempt which, owing to the scientific defencelessness of the time, was doomed to failure from the outset.

I will not generalize to the extent of saying (though there are certainly few exceptions) that the one-sided application of the S-philosophy, which throws away in a lump all the results of scientific research, and by its partial but therefore apparently effective scepticism thrusts aside the results of empirical research as a whole, tends towards reaction. I will not anticipate; I will only glance at the mentally shackled Indians, who, in spite of the brilliancy of their S-philosophy, remain in intellectual darkness; and the "late period" of the Greeks, who in spite of their feeble powers of defence opposed the superstitious ideas of the East. In the later intellectual history of Europe there arose the figures of the mediaeval scholastics, and of Hegel, and, last, but not least, such characteristically modern thinkers as Eucken, Scheler, Heidegger, etc. We are experiencing to-day a remarkable efflorescence of the S-philosophy, a contempt and depreciation of science and its methods, and a notable revival of the so-called occult sciences. That our modern age can no longer impose upon us such heavy intellectual fetters is not due to the merit of the above-mentioned philosophical thinkers: but since we have passed through periods of mental freedom and high attainments in science it is no longer possible to return to developments of this kind, as might incidentally be expected after many of the mental manifestations of our time.

If I have no great inclination to linger over the starting-point of the S-philosophy, the "primary experience," and consciousness, this is because of my conviction that it is precisely the most primary psychological facts which are least under control, and that because of their subjectivity and in-

susceptibility to control they can but rarely be clearly grasped. There floats before my mind something like this: one dreams, one has feverish conditions, hallucinations. The bystanders gaze on the sleeper, the fever-patient, they note all the objective symptoms, his rapid irregular pulse, the morbid condition of his heart, and so on. But what of the pictures that pass before him in his dream, which are not observed by the bystanders: are they a reality? From the standpoint of some of the philosophers of consciousness there is no dividing line between dream and reality, as we distinguish these two conceptions in normal life. Can we, however, retain this standpoint for any length of time? Must we not say something like this: that in everything subjective, everything psychical, there is a much greater coefficient of illusion, when it is still theoretically so immediate, so "primarily experienced?" In the further course of this work yet other reasons will be adduced which seem to make it inadvisable to build up our world-picture entirely on a foundation so insecure.(33)

If I were to look round for a suitable name to describe the philosophical views set forth in this book, I would much rather employ, instead of the discarded word "materialistic," a designation which is negative indeed, but far more in correspondence with the fundamental character of the doctrine developed. I have chosen as the sub-title of this book: "An Attempt at a non-hominist Philosophy."

If I speak of a non-hoministic philosophy I, of course, am well aware that I am guilty of an intentional exaggeration. For I am really writing of a path, a direction, a method, an attempt; of an endeavour which, strictly speaking, must be frustrated, but which yet attains its object, even though doomed to failure. I would most gladly escape from the inevitable hominism, from the anthropocentrism so constantly emphasized.(34)

The non-hoministic philosophy should be so constituted that man does not play the central rôle in the world in which he puts his faith—a faith which from a biological standpoint is both necessary and useful, but which in any theoretical deliberations must give rise to an erroneous optical attitude, which

may, however, be avoided through a more critical comprehension. But excessive hominism has not only the defect of seeing man as the central point of the Universe, upon which everything turns: from the human standpoint it sets *too high a value* on man himself, and regards him solely from its subjective aspect.

I am of course aware that in the strict sense of the word there is not and cannot be a non-hominístic philosophy, that the term corresponds to a false or spurious conception: as though man could possess a scientific mentality, and a mode of philosophy, of other than a human character, derived from no human sources. I have always considered Goethe's dictum, "Man knows not how anthropomorphic he is," as one of the profoundest truths uttered by that great thinker. Man cannot think otherwise than humanly, and the whole of his wisdom is hominism. Further, this wisdom partakes of the forms of hominism current in his age and in the country in which he lives. The fact is too little considered, that we proud Europeans of the twentieth century—who reflect, a little vaingloriously, how far we have progressed beyond our fathers of the seventeenth century, who still burnt witches—are really not so far advanced. How large a mental legacy from the dark Middle Ages, what a great and dubious inheritance from the Stone Age, still haunts our spiritual life! We are hardly able to conceive for ourselves the spiritual condition of a Chinese or an Australian blackfellow—or that of a horse or a dog—to say nothing of presumably higher and different forms of intelligence, since their existence is disputable. Being so formed, man must be well aware that his profoundest thoughts can only be a hominism of the twentieth century, which later centuries will have every reason to contemplate from a higher level.

Thus we cannot really desert the sphere of hominism. If nevertheless we have chosen such a daring designation for our world-view, we have done so in order to document our intention; for a consistent O-standpoint can be realized only if we do our best to isolate the observer from the thing observed. Man must, on the one hand, be aware of his subordinate

position in the universe; for this must impress itself upon him as a result of the achievements of natural science. If on the other hand he leaves the ground of natural science and ascends to meditations upon epistemology, the platform won by preliminary scientific work must nevertheless have a permanent influence on him, guarding him against philosophical one-sidedness.

The non-hominstic standpoint will also save him from judgments of *value.* In practical life man can hardly avoid making judgements of values. Such estimates are based on the pleasure-principle, which again is anchored in biological assumptions. Above all, we have to live. The difference that one object is edible and another not, the circumstance that the air is indispensable for breathing and thus for life, and so on, guides the first man to a judgment of values. Pain, hunger, and thirst must be banished, and their opposites will be desired. But since we still estimate value so childishly on occasion—as, for example, when we consider the right hand worthier than the left, over worthier than under, the lion and eagle worthier than the dog and the sparrow—estimates of value will certainly be out of place in a critical, philosophical work. Nor should we regard animals and plants from the standpoint of their utility or malignity. We must not compare the glowing mass of the sun with the substance of our brains, and esteem the small brain of greater value in comparison with this enormous mass. This kind of estimate accords with the old, biologically explicable egoism of the human race. It proceeds from the view that all that exists is for man. This egoism, in its turn, is responsible for our more or less naïve expressions for the purpose or meaning of life. In this sphere assertions have been made in the past which we need not recall to-day. Apart from wholly medieval notions, it strikes us as odd to-day if we hear, for example, the preservation of the human species,(35) or the spiritual uplifting of the world,(36) described as the *end* of the Universe. From the human standpoint such views are comprehensible. They should never be brought into relation with such extensive conceptions as—for example—the Universe, the Absolute, etc., which

belong to another chapter of the history of human thought than those extremely ancient conceptions of the "everyday" human life which arose in the struggle for existence.

The non-hoministic philosophy will set us free from anthropomorphism and anthropocentrism. And although it will not "work" quite satisfactorily, it will at least persuade us to think that man cannot form the central point of world-events, and also to reduce to a minimum the personification of the powers of Nature, a mental habit of which we cannot entirely cure ourselves. We must not permit ourselves to think of the world as a magnified *ego*. The non-hoministic philosophy frees us from an inherited Theism, and also from a belief in so-called substance, and from any overestimate of the personal *ego* which we refuse to elevate to a principle of the Universe.

But in another respect also it is possible for us to approach the non-hoministic world-view. Let us be critical in respect of our language. Let us realize that it still carries along with it a large stock of words which have arisen from an old, childish form of thinking, which presented the whole world and its events as narrowly related to our inner selves, in some fashion akin to our *ego*. There are many such words, and it is no small merit of Fritz Mauthner's that he has drawn our attention to these verbal corpses. There are words which remain only words, long after their original connotations have disappeared.

We have explained what non-hoministic philosophy is *not*, and should not be. We have discussed which way it should travel. But we have not determined whither it ought to lead us, and what final result it should envisage.

Any critically constructed doctrine of *Weltanschauung* is to-day subject to so many restrictions that it ought not to surprise us if its conclusions are perfectly barren and utterly depressing. If we would approach the higher spheres of reality, if we would strive to come nearer to the truth—or what we call the truth—our world-view can in the last resort be no more than a perfectly resigned agnosticism: an admission that our mind never can and never will solve the Ultimate. If we cannot bring the surrounding world under a common denomi-

nator; if our critical mind is able to work only within certain "lower latitudes," and if even then its operations are restricted, we must come to a definite agreement. The spheres of knowledge which are swathed in the black veil of resigned ignorance are gigantic compared with what we *can* know, and what the intellect has the power of appearing to know. This vastness of the unknowable can be otherwise expressed. Perhaps the positive declaration that it is gigantic, and in this way unknowable, says too much. Perhaps we should be satisfied to say that we can learn something of only a little area of the enormous unknowable, without saying what we ought to think of this unknowable—whether it is really endless, or whether such a thing really "exists." The higher we progress, the blacker, the more negative will everything be, and the more notes of interrogation will lie in wait for us on every side. In the world of resignation literally everything vanishes.

I shall not for this reason deny that there is progress in our everyday life. There is truly progress, and it is good that there is. But we remain, always, only on the surface: we know what we want for life, but we do not want to know much. We shall presently realize the abysmal depth of many philosophical problems. They are not only insoluble, but often enough it is not even established whether they *are* problems, or whether they only seem so to us. Great and profound questions do not permit of being thought out to the end. It is not easy to speak of the Absolute, and I might even say that it seems to me a blasphemy to do so, if I could only rid this word of its ecclesiastical flavour.

Our conclusions will restrain us from speaking of the Absolute, or indeed of absolute truth, or of absolute value. It affects me painfully, as though I were listening to children speaking in a kindergarten, when these combinations of words are used. To this category belongs the common manner of speaking about the meaning and purpose of the existence of the world, or of the Universe. It is almost a matter of good form with many authors to say a great deal about such thoroughly illogical and impossible combinations of words. Children like to hear them.

From this it follows that the non-hoministic method:

1. Will furnish a broad, comprehensive picture of the world, which is for the time being entirely unphilosophical; and also, from the standpoint of naïve realism, provisional, monistic, materialistic, or physical, and for the time being vulnerable to every epistemological criticism. This picture, of which the *temporary* character cannot be sufficiently emphasized, will of course be traced only in accordance with methodical considerations.

2. In the second stage, this picture must be elucidated to some extent, in the sense of the empirical-critical method, by epistemology, so that the weakness of *merely* physical observation and naïve realism may be fairly exposed. Then, at this stage, a philosophical world-picture will be drawn, for the most part negative in character, but which, since we are still true to our fundamental attitude, will not vanish completely in negation.

3. At last, of course by way of suggestion, an attempt must be undertaken, on the basis of an expert and critical epistemology, to lift the *Weltanschauung* farther into the metaphysical heights, where, of course only blackness, negation, and silence reign.

Thus we end in complete agnosticism. Into this all other philosophical views debouch, provided they are critical. Even the consistent S-philosophy must end here. That we know nothing about the Ultimate, and shall never know anything, is the final sentence of every philosophy which deserves the name. But we shall still be psychologists to this extent, that we must set a certain value on the *way* to the highest and deepest realm of darkness. We have not chosen our method for the sake of a final, resigned admission of ignorance. We believe that on the path through the O, which admits of control, our world-knowledge—at least in the intervening stages, which are practically the more important—can be given such a form as will enable it to hold its own, before competent criticism, in a still remote future.

## NOTES

33. See p. 108, 117, 150 ff.

34. The word "hominism" in this sense is derived from the English pragmatist F. C. S. Schiller (born 1864).

35. Hugo Dingler, *Metaphysik als Wissenschaft vom Letzten* (Metaphysics as the Science of the Ultimate), Munich, 1929, pp. 95–101. See note 22.

36. Ibid., p. 186.

## CHAPTER III

## THE THREE WORLD-PICTURES

IN this chapter the three world-pictures or *Weltanschauungen* already indicated will be outlined.

It is unconditionally necessary to emphasize the fact that we do not desire in any way to deviate from logical principles. The logical method in the upward direction to the Ultimate is perhaps not entirely practicable, because the Ultimate, or, as we shall gradually become accustomed to say, the Absolute, is burdened with so many logical contradictions that we simply cannot cope with it by means of our human logic. But this final conclusion is not in question. The black cloud of negation and transcendency will help us over the last crags.

To this final point there is still, of course, a broad way. But we must not disregard the strict laws of logic.

Perhaps the contents of this chapter will not be immediately clear to every reader, since it assumes much which may become perfectly comprehensible only in the course of our further deliberations.

We have already indicated that we are compelled, in the course of our exposition, to deal with different world-pictures alternately. We shall follow mainly the so-called scientific and the philosophical or epistemological modes of consideration, of which it will often be necessary to compare the conclusions. Obviously there would be a serious defect of method if the two resultant world-pictures were in any way confused with each other; accordingly we must take the risk of comparing them, assuming that the reader can be entrusted with the consideration of the important problems involved.

It would be a very simple matter if we possessed only a single world-picture, and could suffice with that, as men did in naïver times. Of course, this was effected at the cost of "truth," which is not so easily attainable as once appeared. Now, on the contrary, we know that the so-called objective or

absolute truth does not exist. If we would approach it as closely as possible we require the following world-pictures:

(A) The first is the picture given by our senses. We call it also the sensualistic, or the natural scientific picture, or simply the "scientific" picture as distinct from the philosophic. What our senses furnish to us, that "is." This world-picture leads to materialism. Until quite recently it was the only one that we knew. What religious monstrosities were imposed on men in the form of this world-picture, if we set aside the Indian Upanishads and the idealistic philosophy of Plato!—which world-views, of course, were not in our sense of the word actuated by the *critical* spirit. Yet to-day this scientific world-picture is the only positive thing we know, the only thing that can be permanently supplemented and deepened. Many find sufficiency in this.

(B) Kant, proceeding on the basis of the epistemological and preparatory work of Berkeley, Locke, and Hume, critically exposed the hominist ic character of this view. He rose above it once and for all by the irrefutable assertion that we perceive only appearances and not "things in themselves." Now, since Kant's time, we can speak of a second, philosophical world-picture.

Kant pointed out that what was then taken for "knowledge" was naïve realism, and pointed the way to metaphysics. But he also showed that neither now nor in the future could we attain to it. Instead of metaphysics he gave us a theory of knowledge. We create the philosophical world-picture for ourselves under the assumption that we know only appearances, that the "in-itself" is entirely inaccessible to us. To this noetic but not metaphysical world duality belongs, e.g. the doctrines of the categories of the subject (the intellect, the ego, etc.) and of the object (the "thing-in-itself"): with regard to us human beings, the appearance, the phenomenon.

Here again we come to the debatable questions of the *a priori* and the criticism of the world of appearance. There is no bridge between the first and second spheres, by reason of the negative character of the second sphere. True, there are apparent bridges, but these are no more than false per-

ceptions. They convey the impression that they belong to the higher world, whereas in truth they are but human, methodically incorrect conceptions, which have been accepted by erroneous but earnest belief, as though they existed apart from ourselves—nay, as though they existed "in themselves." To this belong "existence," "being," "the Absolute," and so on; purely theological conceptions, in the older, narrower sense of the word, and not to be discussed.

(C) The third world-picture can be only theoretically discussed. This would be for our human minds—as for every intellect—entirely and utterly inaccessible, and would reside in transcendence. In this case, of course, one could speak of "truth," somewhat as in mathematics we speak of $\sqrt{-1}$, or of the convergence of parallel straight lines, whereby one is made aware of the fictive and thoroughly negative character of the "truth."

Side by side with these three world-pictures there is a manifold comprehension of truth, which will be discussed later on (p. 136).

Our world-pictures permit of a still further logical arrangement:

(A) The world of "naïve realism" (the sensualistic, natural scientific world-view).

I. In the direction of the outer world:

(*a*) The oldest (37) animistic world-picture, full of superstitions, fetishism, and mythology.

Man observed little and judged hastily. This is the world-picture of the crudest anthropomorphism. He uncritically transferred his internal experience to the external world.

(*b*) The world at which man arrives as soon as he begins to observe more exactly with his senses, and attempts to bring the individual results of this observation into harmony. Primary criticism. The beginnings of science. Few men in Europe and America have already advanced to this stage. The more objective experience of the senses corrects mythological pictures.

(*c*) The observation of the senses is perfected by means

of instruments (microscope, telescope), and knowledge is rapidly enlarged and extended through speculation. The beginning of scepticism.

(*d*) Speculation corrects the results of experience through the senses, and strides forward to ever higher and higher truth.(38) Causality instead of earlier wonder and superstition. Alienation from religion: a critical world-picture without epistemology. Deliberately, so-called practical philosophy goes no farther.

(*e*) To this world belong also the minute structure of matter, the theory of evolution, spectrum analysis, doubts of anthropomorphism, and so on.

II. In the direction of the inner world:

Man observes his inner self and arrives at psychological results. To this, before all, belongs descriptive, empirical psychology, also the doctrine of extraversion, anthropomorphism, and other errors, etc. At this stage old superstitions and mythological conceptions are corrected.

(B) The philosophical, epistemological world-picture.

At this stage emerges the doctrine of the phenomenon and the "in-itself," and farther—as already mentioned—the criticism of language; the sublimation of the older, naïve designations; further consideration of the great neutrals, and the criticism of categories. Here we renounce faith in the Absolute, above all in the absolute advances in criticism and scepticism. Here we also lay aside belief in the "substantiva." In every direction speculation is predominant. The results of the sensualistic world-picture always offer a corrective here.

This world-picture also is of course hoministic; it dares to attempt, on a higher level, to be *still greater*. But for men this is only theoretical, existing only in intention, but not practical —impossible of completion.(39) The way to the non-hoministic philosophy proceeds through all kinds of abstraction. This abstraction appears an abstinence from all judgment of values, personification, and anthropomorphism; it seems to involve the inanimateness and insubstantiality of the cosmos. In the precise sense of the word, the non-hoministic view of the world is as a matter of course forever inaccessible.

(C) The third, and, of course, entirely fictive world-picture, resides in the transcendence. Two stages of this are perhaps conceivable:

(*a*) The world-picture "in-itself," i.e. of the pure object;

(*b*) the world-picture of the Absolute, i.e. the completion of the synthesis of the pure subject and object, and so on (as to its impossibility, see p. 286).

The fictive motive is naturally much stronger in the latter (*b*) world-picture, although in both cases it lies in the transcendence, and epistemologically considered is entirely negative.

The non-hominstic view of the world must not be confused with the so-called "in-itself." "In-itself" means the purely conceived object without subjective function, whereby this pure, unpresentable object is merely a hypothesis, and according to another meaning, a sheer fiction. The non-hominstic conception is never thought of as free from the subject; it strives only to accept a fictive, or higher, or at least something *other* than a humanly presented subject; it is, of course, only a kind of working hypothesis, and we must therefore remain conscious of its fictive character.

The natural scientific world-picture will be still further improved, and will overshadow the philosophical view. As a result of the mighty growth of the first, the second will be constantly amplified here and there. But this will be possible only of the first sphere; the "in-itself" will always remain hidden in the unknowable. The third, transcendent world-picture will always remain a sheer obscurity. It would, however, be methodically incorrect to make no mention of it, and to ignore it on account of its fictive or transcendent character. It is often economical to work with philosophical fictions.

I might compare the three world-pictures to calculations with special, general, and imaginary ciphers. With these pictures the doctrine of truth is concomitant; each of these views corresponds to its own truth, to its own stage of truth. The absolute truth is a fictive conception, and it exists neither for us men nor for any other subject. The remaining truths are relative, and necessarily so, since every higher truth, in

a downward direction, entirely excludes the lower truth, and in an upward direction can and will be abolished by a yet higher truth.

In sphere A(I)(a) there is neither matter, nor forces, nor the like. We first see matter, causality, and so forth, in sphere I(b) In sphere I(e) and in sphere II we arrive at desubstantialization; on the one hand, by means of natural scientific experience and speculation, of which the summit is the minute structure of matter and its reduction to energy; on the other hand, by means of epistemology, the impossibility of substance, and the unknown character of the "thing-in-itself." Here there exists no more "matter," and the conception of "substance" is meaningless.

These things must be treated further, and more fundamentally, as soon as they become more intelligible.

Our exposition will not be arranged in correspondence with these world-pictures or truths as they are outlined here. Our interest is concentrated in the "subject—*matter*" and not in the *form*, and we should meet with many things separately which really belong to one another, and repeat ourselves a great deal, if we attempted to explain the single world-pictures, one by one, in this manner. Nevertheless, to begin with, we take due account of logical method and strict definition, and thus do not run the risk of confusing different world-pictures with one another; but we must bear in mind that this is possible only in a limited degree. Only a few of our conclusions permit of being ranged in higher spheres, in the higher strata of truth. Most of them are so constructed that they permit of being observed only in the sensualistic, or at most in a sensualistic-speculative [scientific (Id)] world-picture; in the higher spheres they accompany us, as has been mentioned before, as metaphors. Thus, for example, our knowledge of *other* subjects—a sensualistic hypothesis, practically a certainty —is, according to epistemology, incapable of proof.

And of such cases there are many.

Let us imagine a city consisting for the most part of houses of one storey. Here and there stand loftier houses; a few skyscrapers reach with their highest stories into an impenetrable

fog. This is our world-picture as an "elevation." On the "ground plan" there are many pictures, one above another. Some of the first—I am thinking of (A)I(a–d)—are more extensive; others have a smaller circumference; the third class we imagine as lost in the fog, so that we never catch sight of them.

But since we should like to know much that we cannot know, we help ourselves—as has already been said—by transferring the lower pictures into the higher spheres as metaphors.

All our assertions concerning the higher spheres are only metaphors, and our critical sense will see to it that there are not too many of them, that they are not too audacious, and that they do not climb too high.

Above the clear pictures of naïve realism we rise into and beyond the grey and ever less perceptible contours of "sensualistic speculation"; beyond hypotheses, appearance, and fiction to the philosophic realm of metaphor, to the spheres where the final fictions pass into black nothingness. . . .

After this theoretical introduction a historical introduction will be given. For a long time we shall remain within the first world-picture. In the sections on dematerialization, desubstantialization, dysteleology, and irrationality, we press forward, glancing upwards, to the philosophical world-picture, naturally never ignoring the scientific picture, the point of departure for the higher world-pictures.

## NOTES

37. The period during which man, for the most part, did not trouble himself about the "world-picture" at all, when he led a purely vegetative existence, living merely for his physiological needs, etc., remains outside our consideration.

38. In the framework of the sensualistic world-picture there are still other stages, corresponding to the sciences. On the one hand, we consist of bones, muscles, nerves, and blood-vessels. On the other hand, of cells. Then again of molecules, atoms, their components, etc. The final conclusions as to the minute structure of matter (energy)

will not for the present be transferred to living creatures. We shall surely arrive at this in future.

39. The designations "hoministic" and "non-hoministic" play a great part in this book. It is important that we should grasp their sense correctly. The word "hominism" I have taken from Mauthner's *Sprachkritik* (Criticism of Language), III, 10, and he in turn derived it from the English pragmatist Schiller. In contrast to "humanism," which denotes something rather different, hominism means an entirely *human* world-view. Thus, every world-view the species *Homo sapiens* was, is, or will be a hominism. Of super-hominism one can speak in these terms: e.g. when we speak of the Absolute, while being conscious that we have contact exclusively with relations; or when we speak of the transcendence while being conscious of its complete negativity; or, finally, as we speak of sham conceptions, while being aware of the fact that apart from our inner selves they correspond to nothing. Super-hominism, however, has its *positive* aspects. It is an auxiliary conception, which will show us how a world-view would look if it were not of human origin, but stood on higher platforms, than those to which our species can attain.

## CHAPTER IV

## THE SMALL WORLD OF THE ANCIENTS

BELIEF in the meaning of the world and of life, as well as questions concerning them, is characteristic of antiquity. From Homer to Giordano Bruno, for some two thousand five hundred years, the people of our Western civilization believed that the earth was the Universe. For them men were unique, men were the lords of the Universe, and everything hinged on humanity. God had created the earth, rocks and minerals, animals and plants, for man. The earth was small—principally a small country surrounding the Mediterranean Sea. Until the fifteenth century no one sailed the oceans; that the earth was a ball was known to man first in the sixteenth century. Suddenly it flashed into a few European brains that the earth was not *everything*; that the sun, moon, and stars were not intended to forecast the future for man, and spend their light exclusively for him.

Giordano Bruno suffered martyrdom by fire in 1600, because he believed in a plurality of inhabited worlds.

And the spatial minuteness of the earth was bound up with the idea of its short duration: in 4000 B.C. the world was created and Adam lived. The end of the world would come to pass before long. It was looked for in A.D. 1000; later it was believed that the world would last a little while longer, but in any case the end would come soon.

The prevailing world-view, in spite of all the religious and superstitious imaginations of man, was a pronounced materialism. Men had no suspicion of Kant's doctrine that we perceive appearances and not reality. Everything was an affair of simple words, especially of current general conceptions. The almost general world-view of men of education was one of world-realism. It was the world-view of the majority.

The nominalists were everywhere exposed to terrible persecutions—most of all where men understood them.

God and the angels were conceived in a material sense

(spiritualism is not metaphysical idealism). The existence of heaven and hell was true, word for word, and literally believed, and this material faith was brought into causal connection with the manifestations of volcanic lava. Even to Thomas Molina (*Das Leiden im Weltplan*, "Suffering in the World-Plan," published in 1929, p. 208) it appears *fidei proximum* that hell must be looked for under the earth. Then there were all the remaining absurdities: Noah with his ark, and the universal deluge; the fickle Jahve, with his selfish allurements and his predilection for religious offerings from human beings, and the Christian God, the universal God, were simultaneously pledges of the anthropocentric world-order. Everything was for man, even his God. There was also an evil god, Satan, with his human, all too human relationships, and his remarkable interest in the capture of souls, and so on.

And then came the absurdities of original sin, of which all men are guilty, the eternal *poena damni* of the newly born; predestination, and in spite of it the immensity of human guilt; the absurdity of redemption, and in spite of that the persistence of iniquity and the eternal torments of hell; the absurdity of the last Judgment, and the pitilessness of life after death.

How petty was the god of those centuries! How insignificant his interest in man, his only care! How paltry he was in the doctrine of the Incarnation! How clearly and distinctly, on the other hand, we see the rise of the conception of God through the intentionally imagined absence of certain human qualities, the exaggeration of others, and the retention of human elements as the sole filling up of the monstrous vacuum!

All was so petty, childish, and easy-going. People talked much about eternity, without being aware of its abysmal depth.

And thus men forgot, utterly and entirely, all about their brothers and sisters, the poor animals.

Progress is, of course, difficult so long as we do not know who our brothers are, from whose condition we have worked our way up.

Between beast and man there yawned an artificial abyss. So fancy found other brethren for man—God, angels, evil spirits.

Hence superstition, ignorance of the laws of nature, no suspicion of any kind of causality, sheer wonder. And stupidity, jealousy, cruelty—above all, ever and again, cruelty and need, sickness, dirt, hypocrisy. These are the centuries in which underneath all the dustheap of life, crowned by so little joy, faith in the meaning of the world and life yet prevailed. We have rescued faith from those times, and if man is concerned with it to-day he does no more than *revenir à ses premiers amours*.

Belief in the "meaning of life and of the world" is a consequence of anthropocentrism, a first cousin of the mischievous and selfish faith that *everything is only* for mankind. God gave man everything; Nature and the animals must be subservient to him; the stars must shine for him and tell him the time; God Himself is only for man; He cares always for him alone, watches over his good and evil deeds, rewards and punishes him. Translated into the language of science, these words mean that God is the fulfiller of certain functions which depend on the will of man. If man prays, if he offers sacrifice, God fulfils something as a consequence thereof, almost as if He is *compelled* to do so. We in the West have not gone so far as in India, where the gods *must* respond to the petitioner so long as he offers the sacrifice and the prayer quite strictly according to the ritual. Thus prayer and the Brahman were mightier than the gods. Thus the word *Brahman* (prayer) acquired a meaning of the Absolute. But even we are not far removed from these notions. The sacrifice of the Son of Man upon earth, the Last Judgment, the care for the flower of the field which neither sows nor spins, the interest in virtue with regard to the sins of mankind—all this can be conceived as though God had a certain task to perform, ascribed to Him by man for the sake of man—as though He had to serve man's interests; and, indeed, in a place where He is not manifestly active, as, for example, when He punishes man, and so on. If He does this He supports the interests of so-called human society, and the legislators, to whom the thought of God and the punishments of God are welcome helpers, to keep men, with their non-social instincts, under strict control. It would

be an investigation well worth while, and no small book would be needed to record it, if one were to show how God expressly serves only men—i.e. the legislators; how all the theocracies of the world are only apparent, and are in reality merely anthropocentrism and the egoism of the human race.

At one stage, which we are far from having surmounted, man, together with the animals, is filled with a general anxiety, a dread of corporeal annihilation. The evidence of this anxiety is the belief in immortality: purely egoistic as against the animals, to whom immortality is dogmatically denied; egoistic also in the individual yearning for happiness, without compassion, or at least without genuine compassion, for the fate of others.

The same egoistic instinct, which to us to-day seems intolerable, which saw the highest bliss in heavenly joys, to be enhanced by the spectacle of the torments of those condemned, evolved "the meaning of life and of the world"—that is, the purpose of life and of the world for the race of *Homo sapiens*, which arrogated to itself the right to insist that everything, *everything*, existed for the sake of itself and its selfish interests. And as a pledge of this anthropocentrism, this egoism, it set up for itself the belief in the gigantic solidarity of one's own race, arising from the enhanced sense of one's own existence, imputing to it one's own convictions, and one's own views of the existent ruling caste. Thus arose faith in gods and God. Theism is the guarantee-system of the anthropocentric world-order. It was agreeable to man that he should reign over everything; on the one hand, as himself, on the other, in an exaggerated form, as God. It was not agreeable to him to accept the thought that the principle of the world is not parallel with his interest; that the principle of the world is not hominist

Through Theism man humanized the universe. Human laws have become world laws to the Theist.

The base egoism of the human race created anthropocentrism, belief in the meaning of life and of the world (of course always for mankind), and created the belief in God—who was as similar to man as two equilateral triangles are similar—as

a pledge of human supremacy. For the other creatures this human order decreed either vivisection or complete slavery; it permitted no "right of self-determination," but inflicted sufferings of every kind, or, according to circumstances, utter extermination, and after death appointed permanent annihilation. In the crude human understanding heaven and hell would rectify the actual and presumed injustice of things here below; rightly understood, heaven would compensate man for what he did not possess on earth, for what he lacked here below; and hell would yield him the pitiless joy of seeing his foes crushed, of gratifying his lust for revenge.

But for animals there is not even compensation. The animals, in fact, are the poorest of the poor. We catch on the prairies the horse which has done no one wrong, and then, out of our shameful passion for lucre and our egoism, we compel him with whip and spur to lead an unnatural existence; we torment him all his life, and when he can drudge no longer for us we kill and devour him. Where is the compensatory justice for him and millions upon millions of his kind? Who makes good for him this monstrous injustice? No one. Horses have not such an exquisite brain as to devise a hippocentric world, a "meaning of life and of the world" (for horses), to be ruled by a gigantic *Equus cavallus*. According to this world-view, what sort of inferno would be prepared for most coachmen and floggers of horses? We will venture merely to say: the house fetish was the product of individual egoism; Jahve, of the egoism of the Chosen People; God, in our sense, of the egoism of the human race. Sometimes only of the egoism of the whites; sometimes of the egoism of particular nations. The God of Arndt occurs to me: "He would have no servants." . . . But other people have such gods. Arndt said only what others thought. To the general egoism, embracing wider circles, "the united organisms of the earth," to a God who would comprise in Himself not only magnified man, but organic life itself, man has not yet attained.

A future world-observer will be able to say something like this: "At the end of the latest geological period there arose in the minds of the representatives of the race *Homo sapiens*

a certain superstition concerning themselves which led to various mythologies. Every living being believed, consciously or unconsciously, that it was the central point of things, that everything existed for its sake; *Homo sapiens* alone had such a great and well-organized brain as to make out of this a philosophical system. In the period from 2500 B.C. to A.D. 2500 this system developed as an anthropocentrism which appeared to itself as theism. The infantile complexes in which these views of man and of the world resulted began to vanish before 2000 among a quite inconsiderable portion of the human population of Europe and America, but were still generally prevalent, as of old, in A.D. 2500. About the year 3000 they were confined to the inferior races. But even about A.D. 10000 all the forms of these complexes were not completely extinct.

"Having regard to the fact that the last men—about ten million years A.D.—perished through cold, and that the intellectual period of the human race formed no very great proportion of its whole existence, we may say that these infantile complexes ruled over about 1 per cent of human cultural life. But for the men who lived in the period 2000 B.C. to A.D. 2000—for these pitiful, stupid, and malignant creatures, for these narrow-minded egoists, it appeared as though the world existed only for them, and their world-view was absolutely in accordance with this belief."

So far the imaginary late observer.

## CHAPTER V

## THE UNIVERSE OF THE PRESENT DAY

AND now comes the *Weltanschauung* of to-day. It is certainly an elevated view in comparison with the older world-picture; or to put the matter quite modestly, it is at least different in its essentials. Perhaps we may go so far as to say that it is on a larger scale, and thereby nearer to reality. And if this is perhaps more positive than we have any right to be, let us say simply that it is farther removed from falsity.

Of the present time I will not presume to say much. Not only because, so far, we are so dreadfully ignorant: but also because we still have soldiers; many of us are ready or eager to wage war; we execute men and imprison them; we tolerate poverty; we are vicious, untruthful, tactless, malicious, envious, jealous, conceited. This confession could be prolonged. But here is the chief mischief: while we are definitely rather sensitive to the egoism of the individual, very much more might be said of the egoism of whole classes of society, peoples, and races. We are expected to feel, as an ethical principle: "My country, right or wrong." And we have to feel this for *internal* reasons. Most of us blunder along in the most harmful superstitions. We still have churches that fight with one another, each of which believes that only one is right—always itself. And there are not only religious churches; the political and social churches react in just the same way. And there are other things too. Nor are the relations of the sexes as they should be; in Asia woman is enslaved, man in America. It would take us too far if we were to rehearse everything which with us in Europe is not as it should be.

And yet our progress, measured by former times, is enormous. The last fifty years, in the matters of technical and ethical progress, as well as in the rate of this advance, are without example in the history of man as known to us, in spite of all that has *not* been attained. Technical development, of course, progresses more rapidly, and is also easier to observe.

I will not praise my generation. We know that it is difficult "to see the wood for the trees;" a "bird's-eye view" would be preferable. Let us rather talk of the changes in the world-picture.

To begin with—up to the fifteenth century man was acquainted with only some 1,300,000 square miles of the surface of the earth. The discoveries of Columbus and Magellan made it possible to calculate the true size of the earth. After 1522 its spherical form could no longer be disputed. The earth itself began to appear in its right proportions, with its 160,000,000 square miles of surface, the greater part of which, of course, consisted of seas, glaciers, and deserts. The teleological coefficient began to fall for the first time. It is evident that man settled down only where he could; the *whole* earth was not for him. The teleological world-conception ought to have disappeared at once; but man did not reach this point immediately. And soon came Copernicus; then Giordano Bruno; and larger and larger telescopes, more and more astronomers.

The earth revolves round the sun. Its volume is only $\frac{1}{1300000}$th part of the sun's. Other planets are larger. There are countless suns and solar systems like ours. Most suns are indeed far larger than ours. Compare, for example, the stars Betelgeux and Antares.(40)

And all the known stars together form the Milky Way.

The solar system has a radius of about 6000 million kilometres. (This is the distance from the sun of the outermost planet, Pluto.) Possibly it is even greater. The cubic content of a sphere representing the volume of the solar system would be about one quintillion cubic kilometres ($1 \cdot 10^{30}$). The volume of the sun and the planets is rather more than a trillion cubic kilometres ($1 \cdot 10^{18}$). (I am here disregarding the decimals following the 1). Consequently, only $\frac{1}{10^{12}}$—that is, one billionth—of the volume of the solar system is "mass"; all the rest (represented by twelve nines over a one followed by twelve noughts) is "empty." As one cubic kilometre is to the volume of our earth, so is the matter in the solar system

to the vacuum. But this will mean little to most readers. Nor does the time-comparison that this ratio is that of a second to about 30,000 years, tell us much. We can only with difficulty imagine a million. But—a million millions?

So far we have been navigating the known waters of the solar system. Still more unpleasant considerations relate to a higher structure: the Galactic System or Milky Way. In the shape of an enormous lentiform cloud, it extends all round us, outside our immediate stellar system, of which the star which was until recently believed to be the nearest independent member, Alpha Centauri, is distant from us 28 billion miles. The radius of the Milky Way is about 20,000 light-years. We have to reckon in light-years, in order to avoid impossibly cumbersome figures. A light-year means about 10 billion km; 10 to the thirteenth power. The space comprised in our Milky Way system corresponds, expressed in $km^3$, to a numeral followed by 50–52 noughts or digits. The cubic volume of the stellar mass corresponds, under the assumption that in the Milky Way there are some 2 milliards of solar systems about the size of ours, to a numeral followed by 27 digits. The "mass" of the Galactic System to empty interstellar space is as $1 : 10^{24}$. (Naturally these figures are the merest approximation).(41) The result of our considerations hitherto is that in the solar system the *matter* comprises about a billionth part of the volume; in the Milky Way, a quadrillionth. The exponents of the powers of ten ($10^{12} : 10^{24}$) are to one another as 1 : 2. The ratio of one to a quadrillion may be illustrated by the ratio of a litre to the cubic contents of our earth.

While some two milliards of solar systems (42) make up one Milky Way, there is also an enormous horde of so-called anagalactic systems—i.e. systems co-ordinated with the Milky Way, which show as nebulae, and are revealed by our most powerful telescopes as a vast number of light-points—the suns, in fact, which form these systems. The nebula of Andromeda, some million light-years distant, and the nebula of the Greyhounds (*Canes venatici*), distant some 7 million light-years, are the best known. Between these individual universes (how hollow this word is, and how variously it is employed!)

or perhaps we had better say between these anagalactic systems, lie immeasurable intergalactic empty spaces.

For the sake of comparison I will observe: from the sun to Neptune is about 2·800 million miles; to Alpha Centauri 28 billion; that is, about ten thousand times as far ($10^4$); to the nebulae the average distance (43) is 28 trillion miles; that, is a million times ($10^6$) greater than the distance between the sun and Alpha Centauri. I emphasize the fact that Alpha Centauri is almost our *nearest* star.

According to Einstein, the space in which all this is contained is spherical, and its radius is usually given as 1,000 milliards of light-years;(44) expressed in kilometers, it is $10^{25}$. The cubic contents of this universe, expressed in $km^3$, would be a figure somewhat greater than $10^{75}$. Since this is already a roughly approximate estimate—since a small difference in the number of digits is really immaterial, I will take, for example, the number $10^{84}$. With as much justification I could take a larger or smaller figure. Further, I will (quite approximately) assume that the "mass" of this system of the fourth order is $10^9$ times greater than that of the system of the third order, and by expressing the mass in $km^3$ we arrive at a volume of $10^{36}$; so that the contents of mass and space are related as $10^{36} : 10^{84}$ —that is, as $1 : 10^{48}$, or as 1 to an octillion. The universe of Einstein, or the universe of the fourth order, is consequently filled with mass only in the ratio of 1 octillionth. The intergalactic empty space can be thus expressed by a coefficient with by 48 digits. Even to approach the very idea of an octillion in imagination is difficult enough. Starting from my earlier comparison of the cubic contents of the earth, I must proceed more or less as follows: a micron ($\mu$) = 1/1000 of a millimeter, and a micro-micron ($\mu\mu$)=1/1000 of a micron ($\mu$). The cubic contents of the earth, expressed in $\mu\mu^3$, would approach an octillion.

In order that the reader may arrive at a conception of the empty spaces in the universe of the fourth order, the comparison may be continued by saying that 1 $\mu\mu^3$ is to the volume of our earth as the *mass* of the universe of the fourth order to its empty spaces.

Let us now compare the interplanetary, intersolar, and intergalactic spaces with one another. We shall find that the exponents of the powers of ten ($10^{12} : 10^{24} : 10^{48}$), which give the numbers of digits in the corresponding figures, are as 1:2:4. This ratio clearly illustrates the circumstance that within the diverse universes of the second, third, and fourth order, etc.; as compared with universes of lower categories, there exist incomparably greater empty spaces.

If the reader objects that my deductions are highly problematical, I reply that I am well aware of the casual nature of the figures adduced; furthermore, that the uncertainty actually enters with the universe of the fourth order, where one may eventually write, instead of an octillion, a septillion or a nonillion. At all events, it can be shown that the empty spaces increase progressively, much more rapidly than the masses appertaining thereto.

Since Einstein assumes the total universe is not larger than a spherical space with a volume of $10^{75}$ to $10^{84}$ km$^3$, it would seem that there is no more to be said. It is necessary, however, to bear in mind the actually arbitrary nature of the calculations by which the radius $10^{75}$ km is ascribed to the universe. It seems to me as though here, once more, man has been compelled to halt, much as the ancients, who knew only the earth, fixed a boundary, and as indeed Copernicus did. I cannot help thinking that there is yet much to be done—that we have arrived by chance at the conception of a limitless but finite universe, and have thereby run into a *cul-de-sac*. Such a blind alley is our modern doctrine of entropy, from which it follows that 1/454 of the universal energy is already exhausted.

Our intellect demands infinity of time and space. We cannot imagine a limit in time and space, and we demand, for this negative reason, both infinity and eternity. Yet we are uneasy at the thought of both, and we rejoice when we can come to a halt somewhere. Thus, the spherical space with the volume of 84 digits, expressed in km$^3$, signifies for us a halting-place, a breathing-space, an alleviation, an anodyne to our perplexity. It seems to me that we are once more in the position of being "satisfied with something." But I cannot refrain from further

questions: is not this spherical space perhaps greater than we reckon? Or is it really *the* "space" the "total space," at all? Is it not one space among many? Why must every space be spherical? Is it impossible that in some higher space (I know how metaphorically I am expressing myself)—which need not be Euclidean simply because I cannot imagine it otherwise—other spherical spaces, or spaces otherwise conceived, are co-ordinated with our space? They will probably be spherical, since in the section of Nature known to us we can observe a certain regularity (compare the results of spectrum analysis for all stars known to us, which give evidence of an approximately similar chemical structure).

Perhaps there are many systems embedded in spherical space, separated from one another by immeasurable empty distances. Perhaps there exist, separated by unimaginable areas, many and quite incomprehensible universes of the fourth order?

Within the limits of our metagalactic universe, peoples with Milky Way systems, we were still at home. Now we have passed entirely beyond all experience. I cannot rid myself of the belief that co-ordinated metagalactic systems may exist, which together form universes of higher orders. The conception of a metagalactic universe surrounded by spherical space with the volume expressed by only 84 digits in the waste of limitless and eternal time is a strange one. A little nut through which an endless thread is spun. Even Aristotle believed in a spatially finite universe, but in a temporal infinity. Now we are confronted by the Einstein "nut."(45)

I see reasons for this recovery in the psychological sphere. Our intellect can at all events imagine a spherical finite space and somehow be satisfied with it. A spherical, or better, a circular time, which always returns to where it has already been, and which would be the correlative of a spherical finite space, I cannot well imagine. And men usually think so little that to-day a space of which the volume in $km^3$ is expressed by 84 digits seems large enough to be simply "space." It seems to me, however, that this is a "nut."

I can quite well imagine a milliard or even more of such

nuts, placed next to one another. We can imagine $10^{84}$ km$^3$ as actually a hazel-nut; about a centimetre in diameter, if the nuts were separated from one another by distances of some thousands of kilometres.

Let us consider how insignificant the space of $10^{84}$ km$^3$ must appear in contrast to "infinite" space. We can no longer move in the domain of astronomy, but only in the mathematical sphere, which extends much farther. Let us direct our attention to the figure $9^{99}$. It contains about 370 million digits. The cipher that yields this number of digits has itself nine digits. If I write four such nines as exponents, I cannot say off-hand what enormous number of digits this figure will contain; but in this case the number of digits in the index numbers alone will be not merely 9 but 370 million. Of the meaning of five nines I dare not speak. We soon reach figures of which the numerals would run up to centillions. And what is a centillion? $10^{600}$. Let us try to imagine the number $10^{600}$. We shall try to imagine that the number of the nines in the upper index would amount to the Loschmidt number (28 trillions). Let us try to imagine that this figure is a centillion.

Let us imagine universes of which the volumes are not measured in miserable figures of 84 digits, but in enormous numbers of centillions of digits, and even in numbers which have to be expressed by exponents which themselves contain centillions of digits!

Let us try to imagine the distances between these universes! These would not be numbers of a fifth, tenth, millionth, or centillionth power. Imagine a universe of the centillionth order —the imagination has no limits!—and its volume in $\mu\mu^3$. And then think of a universe of which the ordinal cipher was obtained only by working out this gigantic multiplication sum!

And who will guarantee that these universes in the limitless areas of infinity are not surrounded by other spherical finite spaces, and that these again do not form higher systems of other co-ordinated universes?

And so we are left with the infinite as a beginning, for the greatest finite number itself, let us say $n$, is in the ratio of $n : \infty :: 1 : \infty$.

But now I am critically face to face with the conception of ∞. I am critically confronted with the problem of its positive reality. I am aware of its negative origin. That lies in the psychological sphere, in the impossibility of imagining limits. The positive conception of metaphysical infinity is essentially one of a theological nature. For me it occurs in the realm of the great neutrals, to which it is the gate of entry; in the agnostic darkness. Perhaps it is a defect of our intellect, perhaps of intellect in itself, that this conception must and can be entertained.

I admit that we can grasp time and space only within the keyboard of some kind of "epistemological piano,"(46), or about the equator (so to speak) and in the lower latitudes of a Mercator projection.

Another than the agnostic standpoint with regard to space and time, infinity and eternity, is uncritical, and already unworthy of our age. Infinity and eternity are negative ideas, which, grasped positively, are unimaginable, yet their denial is unthinkable, and all compromises are attempts to understand the impossible, born of perplexity—and this is all that we can maintain with a good conscience.(47) Let infinity and eternity be as they have always been—one thing is sure, that the universe is immeasurably great. Indeed, the 84-digit metagalactic system—to say nothing of the suggested system of the centillion of digits—is a conception so vast that we men have not yet become accustomed to it. Neither have the corresponding inferences been drawn from it. And what applies to space applies equally to time. Our earth will continue for some 10 million years in such a state as to make it possible for living creatures to exist on its surface.(48) Since it has already existed for about a thousand million years as an independent heavenly body, this is 1 per cent of its independent life. Life, of course, has had a long duration; perhaps it will last in all 100 million years—reckoning from the first protozoon to the extinction of the last organism existing on earth—yes, one ventures to-day to hint at yet farther possibilities. But at some time or other the earth will be dead. And in spite of that it will still revolve round the moribund

sun. Here great difficulties make their appearance, according to the present state of science. It used to be the current notion that the dead solar system, like a frozen cemetery, would drift through space until it collided with some other star or nebula, and that by this collision heat would be liberated, new life would be kindled, and everything would be repeated anew. This picture has certainly been current among us for decades. And one was wont to adduce the classical example of such a collision, in February 1901, when the "Nova Persei" arose. To-day, however, thanks to the latest researches by Planck, N. Bohr, Einstein, and Schrödinger—to cite only the more important names—our conceptions of the structure of matter, radiation, etc., and the phenomena connected therewith, are completely altered. The "Nova" arose not through a collision, but as the result of a sort of explosion, of whose causes we know very little (cf. Arrhenius, *The World of Stars*, p. 160). The stellar mass will be exhausted and destroyed through radiation; the sun consumes, in its daily radiation, $36 \cdot 10^{10}$ tons of its mass—and so on. The hypothesis of Laplace, more or less as Flammarion understood it, and following that, the more widely held hypothesis of Easton (Kahn, *Die Milchstrasse*, "The Milky Way," p. 99), is far outstripped to-day. According to the showing of Jeans, in his book on the origin and end of the universe, matter lasts for 200 billions of years, and the stars barely 10 to 15 billions of years; on the other hand, the whole universe perishes, after an approximately equally vast time, through "death by heat": i.e., the whole of its energy changes into heat-energy, and will, at a proportionately lower temperature (having regard to the proportionately smaller amount of stuff as against the empty spaces), be incapable of further change. Any sort of repetition of stellar life, on any kind of change, seems to be excluded.

I am of the opinion that this theory, no less than that of the finiteness of the spatial universe, constitutes a blind alley for science. We quite simply know no more, but on that account we dare not take refuge in an *asylum ignorantiae*, by which Spinoza always means a personally conceived Creator, who may of course make his appearance where knowledge

fails. On the contrary, it seems to me that the attitude of science to-day constitutes a momentary deflection in a certain direction, and that the future will show it how to reconcile itself with reality, i.e. on the one hand, with eternity—which means, with the assumption of unlimited time—and on the other hand, with the life of the universe as it exists to-day.

Let us assume that the universe to-day has at its disposal an immeasurable stock of energies, and that it has already surmounted a whole eternity: then we cannot believe that time arose, relatively speaking, a little while ago; then we must not attempt to explain the universe's existence, but must take refuge in wonder. I therefore still hold that we cannot well imagine a limited or circular time (analogous to spherical space). In spite of this, I hold the view that even the universes succeed one another, and that our universe is far from being the first in the series; so that it is, of course, unknown to us how it happens that in some way or other heat-energy gives rise to other energy, more favourable to life.

Nevertheless, it seems as though time-spaces exist not only between the individual and successively appearing solar systems, but also between the individual anagalactic systems, and that, even more, there must exist, between the metagalactic systems, measureless aeons of time. Perhaps there are sextillions of years between them, and perhaps even larger figures are required; for the greater the universes the greater also the intervals between their existence, and the longer the duration of their periods of inanimateness.

I think that the attempt of modern astronomers to explain the universe in time once for all is certainly consistent with the belief in the spatial finiteness of the universe, but that these views lead to such inconceivable difficulties that we must look again for an imaginable synthesis with the older cosmogonic theories. Physically they are, of course, more modern, but philosophically untenable. I refer ultimately to the analogy between the immeasurable empty spaces of all orders (from the inter-planetary to the inter-metagalactic) and the rising intervals of the inanimity.

I am of the opinion that in the future new Flammarions

and new Eastons will bridge over the gulf between the physical views of to-day and the postulated eternity of the universe, from which we must almost of necessity proceed for the present. However this may be, in any case the newer notions of matter, energy, and radiation necessitate still longer intervals in the time-order between the individual universes than did the older views.

Neither do the newer theories contradict the thesis of the enormous empty spaces and inanimity in the universe as compared with the vanishing accumulations of matter and the brief manifestations of life.

Here we must definitely wait, patiently, until our physical world-picture is more fully developed. . . .

## NOTES

40. Betelgeux in Orion is regarded as the largest star known to us to-day (cf. Arrhenius-Lundmark, *The World of Stars*, II, p. 118; Eddington, *Stars and Atoms*, fourth edition, p. 76). Jeans differs from the view of these astronomers: in *The Universe Around Us* (p. 292) he puts the star Antares in the first place, and Betelgeux in the fourth. The diameter of Betelgeux is given by Arrhenius as 540 solar diameters; of Antares, 170; of Mira in the Whale, 300; whereas Jeans gives: Antares, 450; Betelgeux, 250; Mira, 300. Consequently the cubic contents are not the same. Antares, according to Jeans, has 90 million times the cubic contents of the sun; Betelgeux, according to Eddington, 50 million times. In this connexion it must not be forgotten that these great stars are so "light" that their mass is no more than 35 to 50 times greater than the solar mass. It seems to me that the results of Jeans are more recent than those of Arrhenius, as the latter, with regard to the dimensions of Betelgeux, gives only the observations of Pease in 1921 and 1922; it is to be noted also that Eddington accepts Betelgeux as the largest star. It is of secondary importance for our purposes which of these enormous stars seems to be actually the greatest. What is significant for us is that our sun, which for us is so enormously great, is small in contrast with these stars.

41. At the time when I wrote this chapter the latest literature was not yet available. It rectifies some of the figures given above. Arrhenius, in the work mentioned in the previous note, gives eight estimates of the spatial content of the Milky Way, of which two correspond with my radius of 20,000 light-years. The others are

much larger, viz. Shapley's, who gives the radius of the Milky Way as 150,000 light-years. Shapley's figure is given also by Jeans (I, p. 70). But if I accept the figures of Shapley and Jeans, and assume that the volume of galactic space is substantially greater than was formerly believed, I shall still stand by my figures, as the new figures increase the mass and contents of the star-mass, so that the ratio is more nearly balanced. For comparison, I will cite here the figures of Shapley-Jeans: the diameter of galactic space is given as 220,000–300,000 light-years. I calculate the volume of the *smaller* sphere of $d = 200{,}000$ light-years; therefore $V = 419 \cdot 10^{52}$ km$^3$. The star-mass in the Milky Way is, according to the same astronomers, $24 \cdot 10^{10}$ times greater than the solar mass. The sun has a mass of $2 \cdot 10^{27}$ tons; therefore the mass of the Milky Way is $48 \cdot 10^{37}$ tons. I accept the statement that Betelgeux, for example, has a $10^6$ times more rarified mass than the sun, and that other stars—perhaps the majority—have such a rarified mass; but, on the other hand, there are other stars of extraordinary density, such as the satellite of Sirius (Eddington, *Stars and Atoms*, p. 117). Consequently I take as my basis a $10^3$ times lower density than that of the sun; therefore the $V$ of the star-mass would be $48 \cdot 10^{40}$ m$^3$, that is, $48 \cdot 10^{31}$ km.$^3$ As the $V$ of the Milky Way space is approximately $4 \cdot 10^{54}$ km$^3$—a figure with 55 digits—and the $V$ of the stellar mass a figure with 33 digits, the ratio of $V$ of the stellar mass to $V$ of the Milky Way space is $1 : 10^{22}$. I gave above $1 : 10^{24}$ (a quadrillion). It will be seen that this depends on the estimate of the stellar density, but having regard to the uncertainty of present values we are not too far from the truth in our general estimate.

42. The number of stars in our Milky Way is estimated to-day at a figure rather higher than mine ($2 \cdot 10^9$ systems, i.e. about as many suns). The latest estimate is $30 \cdot 10^9$, and even more. Of course, on the other hand, there are given the *other* anagalactic systems—i.e. systems of an order similar to our Milky Way, with lower values—assumed to contain on an average $2 \cdot 10^9$ suns. I have taken into account the average size of a galactic system, ignoring the circumstance that *our* Milky Way happens to be somewhat larger than most co-ordinated systems. The designations "anagalactic" for the systems co-ordinated with our Milky Way and "metagalactic" for the so-called systems of the fourth order—or for Einstein's finite universe—were taken from the work by Arrhenius whose title was given in note 40. On the whole, the present work adheres to the nomenclature of Arrhenius. It is, however, useful to remember that the terms "Einstein universe," "the universe of the fourth order," "the metagalactic universe" have the same meaning.

43. Of course, it makes a great difference whether we regard the nearest or the remotest anagalactic systems. According to Jeans

(I, p. 82), the greatest perceptible distance was 140 million light-years, i.e. about $14 \cdot 10^{20}$ km. Stars or nebulae at this distance can be perceived with telescopes of 2·50-m aperture. Such telescopes show about 2 million anagalactic universes. Telescopes of 5-m aperture reveal 16 million of such universes.

44. These data I take from the book by Desiderius Papp, *Sind die Sterne bewohnt?* (Are the Stars Inhabited?), p. 34. Jeans (I, p. 88) gives a lower result: as against Papp's $10^{12}$ light-years he estimates only $84 \cdot 10^{9}$, or approximately $10^{11}$ light-years. This number is less by a decimal point than the former. And other data are still lower. On the other hand, the volume of the Einstein universe is not always the same. It grows constantly, since through radiation matter is destroyed. (Cf. Jeans, I, p. 91, and Eddington, *The Expanding Universe*, p. 66.) But though all these figures are approximate, I do not think I can therefore modify the basis of my contention that the proportion of empty space grows strictly in a quadratic relation to the mass with the increasing ordinal numbers of the systems.

45. I know that my conclusions will not find general acceptance, and that it may be objected, for instance, that I do not rightly understand Einstein's assertion that spherical, unlimited, but finite space is all-inclusive; although his original, somewhat rigid conception of a comparatively small finite universe has been transformed into the notion of a universe in constant expansion. During the last five years this conception has undergone many revisions. As regards our own purposes, we are satisfied to note that a certain rigidity originally inherent in the conception has vanished. Behind the conception of an expanding universe, without explicitly emphasizing it, lies the conception of a hidden space, which enables the universe to expand, and since no bounds can be set to this expansion, it can be considered as infinite. How is then this space formed? From the philosophical and geometrical standpoint, of course, different kinds of space may be imagined, many-dimensional, spherical, and others. But it is an open question whether in our sensualistic, empirical-critical, scientific world-picture we can forthwith surrender Euclidean space (cf. Maier, *Wahrheit and Wirklichkeit*, "Truth and Reality," I, p. 463). I am too sceptically inclined to be at all costs a fanatical defender of this space, but I am inclined to think that the matter does not permit of being solved so easily as we assume to-day, and that there are many conceivable difficulties in the way of Einstein's picture of the finite universe. The hint that the earth "may still be a sphere" yet possess a surface which is finite yet unlimited, has not much force as argument. It is at most an illustration, because the volume of the earth is as limited as it is finite; *here*, however, there is question of a volume, a three-dimensional bulk, and not of a surface; here a four-dimensional space becomes a necessary aid to the imagination,

in which the three-dimensional, spherical Einstein space would be found, as the two-dimensional surface in Euclidean space.

As for certain of Einstein's deductions—as, for example, that the completely stuffless space may be infinite, but that the more mass is contained by space, the less must its expansion be; that space increases in consequence of the loss of mass through radiation—so that if the mass could be completely exhausted it would be infinite—at the present time these questions do not permit of a decisive answer. I believe, however, that Einstein's theory of relativity represents only a temporary phase in the development of our imagination of the universe, and that in the future it will be looked down upon as we to-day look down upon the clasical mechanism of Galileo and Newton; and that these will be regarded as the childish views of a remote age. Modern astronomers, with few exceptions, have of course erected their world-picture on the basis of Einstein's cosmology. Jeans, indeed, has advanced a series of sceptical objections with regard to Einstein's cosmology, although he accepts the special theory of relativity unconditionally, and the general theory as a whole. It must not, of course, be forgotten that the Einstein cosmology is not the only one which is based on a finite space; we have also the cosmology of Sitter, and that of Lemaître (Jeans, I, pp. 88, 91). In this connexion let the reader compare the passages quoted. For this reason the Einstein theory seems to me in a transitional stage, before the still profounder scientific discernment of the future—as a kind of phlogiston, or the counter-earth of Archelaus—because its world-picture, especially with regard to the theory of so-called entropy, must lead to serious cosmogonic difficulties. For further on this point, see note 51.

46. There are many reasons why I introduce a piano for the sake of comparison and speak of an "epistemological piano." Just as on a normal piano with fifty white and thirty-five black keys only the *middle* tones occur—that is, tones of about 28 up to tones of about 3,000 vibrations per second, to the exclusion of the extremely deep and extremely high tones—so our experience is related to a series of things and events (sense-data and contents of consciousness) which in respect of space and time lie approximately in the centre for the perceiving subject. The all-too-distant spheres of space and the all-too-distant past and future do not come into consideration for our experience. But the comparison and its possibilities are not exhausted by this, which is only the longitudinal section of the comparison. In the transverse section we approach things and events only from their superficial aspect; we can perceive only appearances of something for ever unknown, without having access to the actual or alleged things in themselves. Further, our experience encounters only individual things and individual appearances; the realm of super-conceptions and categories lies outside the scope of the com-

parison, beyond the limits of the "epistemological piano," in the great neutrals, which subsist in unknowable transcendency.

47. To these solutions of perplexity belongs also the well-known dictum of Kant that space and time are only perception-forms of our intellect; hence, as such, do not exist; also, Einstein's explanation —good in itself—of a spherical, comparatively small space. Elsewhere (pp. 143–150) I have already shown how time, and in a certain sense space, is thoroughly real; more real than anything else can be. "Unreality of time and space" opens the way to arbitrary rule in philosophy. Einstein's dictum is one hundred years younger than that of Kant. Of such dicta, so long as life lasts, there will be many more.

48. In this connexion Jeans, of course, goes much farther, since he grants that terrestrial life in its present form should be possible for a billion years, apart from possible cosmic catastrophes. Here, undoubtedly, science is far from having said the last word (Jeans, I, p. 363).

## CHAPTER VI

## CONSEQUENCES OF THE MAGNITUDE OF THE UNIVERSE

IF we summarize all that has been said hitherto, we arrive, though we have not yet touched on the philosophical world-view, at a conception—certainly indefinite and approximate—of the unlimited time-and-space character of the universe.

Important above all is the perception that in the Einstein universe, which frankly does not satisfy us in respect of space, and above all of time, we have established the ratio of matter to vacuum as about one to an octillion (which equals the proportion of a molecule to our earth), which corresponds with the ratio of unlimited inanimate time to the brief duration of life. According to this, the duration of life is possible only for a short period, and emerges only from time to time in the universe. For a while some celestial body is capable of sheltering life, and then follow enormous periods of time in which this possibility does not exist.

In the universe, therefore, there is a little vanishing life, which we have strained through two sieves; through a spatial sieve, which shows matter as occupying an octillionth part of the vacuum, and through a temporal one, which shows that matter is able only for an *n*-tillionth of its duration to produce life. With regard to our life on earth, a third important limitation must be mentioned, though this is relatively insignificant in comparison with the two former gigantic "sieves": only an insignificant proportion of the earth consists of living stuff. This fact can best be expressed by a fraction, of which the numerator is the animate matter and the denominator the inanimate matter. The size of this denominator is of course very impressive, although we have become accustomed, in our earlier considerations, to really high figures.(49) Let us bear in mind that the earth alone of the planets (with the possible exception of Mars) is capable of supporting life—and according to recent views there are very, very few of such

planets—so that the denominator is increased, for the solar system, by six digits. From this it is evident, that regarding the universe from a higher, non-hominstic perspective, it presents a vacuum interspersed here and there with cosmic dust, of which again some *n*-tillionths possess the complicated chemical structure which is the condition of life. And this life emerges for some cosmic seconds, interrupted by an inanimateness which lasts for *n* tillions of years.

Why do I speak of all this here? Why do I work out such impossible reckonings and estimates, why do I fling such enormous ciphers about? This is unconditionally necessary, and indispensable for the purpose of world-orientation, so that we can at length say just how matters stand with us in the universe.

We permanently admire only ourselves. We are astonished to think how perfect we are, how great we are, and how gloriously everything is arranged in the world. We are amazed that we are in life. We rejoice in a sense of life.

So far as may be established to-day the truth is this: that in the universe there are measureless time and space gaps; the matter lost in these empty spaces is of the utmost simplicity, and therefore cannot be animate; it is built up, almost without exception, of ionized atoms, i.e. from our earthly standpoint, of shattered atoms, in which the electron-orbits are torn from the atomic nuclei; so that the matter capable of life is in proportion to the remainder quantitatively insignificant. Also, the temporal possibility that matter can support life is confined to an almost infinitely modest part of a fraction of its duration. Expressed in figures, the proportion of the cubic contents (50) of the animate and inanimate masses in our metagalactic universe is something like $1:10^{19}$, that of the inanimate matter to the empty space $1:10^{56}$. The time-intervals do not permit of the remotest estimate, as they differ in different parts of the universe, and are, moreover, utterly unknown to us. But as I should like to arrive at some kind of result, so as to give, at any rate, some sort of illustration of what I have in mind, I take as the basis of this time-proportion an exponent which is only one-third of the index at

which I arrived for the proportion of space. I proceed with the consideration that time is a linear dimension, while space, on the contrary, is three-dimensional. For the proportion of animate matter to the vacuum we found the expression $1 : 10^{19} \cdot 10^{56} = 1 : 10^{75}$; so here we will content ourselves with $1 : 10^{25}$. The total, the volumetrical as well as the temporal proportion of animate matter to empty space (expressed in cubic contents) in our (Einstein metagalactic) universe may be expressed as $1 : 10^{100}$.

The more probable occurs more frequently (empty spaces, death); the less probable (simple matter, remote potentialities of life) is in reality less apparent; the least probable of all (organic matter, capable of life, and living organisms) is the rarest.

It is the duty of a reasonable thinker to point to these enormous empty spaces,(51) since because of their negative character they are readily overlooked. The size of the material universe, too, as well as that of the time aeons, is apt to be forgotten. Only one who is conscious of these enormous proportions is likely to take them sufficiently into account.

The opposite point of view must not be overlooked: that the time and space gaps and periods of death do not prevail *exclusively*. Insignificant though they may be, the solar spheres and stellar systems, and the periods of actual and potential animation, interpose themselves between them. *Only* empty space and *only* inanimateness would be equally improbable.

I am aware of the hominstic form of the statement: "they would be equally improbable." This is our Lilliputian expression, which seeks to find its way among these facts, and arrange them in accordance with its individual scale, which seems to it a kind of qualification, ranking them with the rest of the pigmy forms of knowledge. What is the "great," the "immeasurable?"

That it should correspond to our expectation that the irregular and unordered is more probable than the regular and ordered is no matter for surprise. This is simply our experience of every day. We must not be surprised that it should be the same with the great as with the small. We have

gained our experience in little things, and it is permissible that some of it, as just this item, should be applied to the great.

Is it permissible for us to estimate the universe?

That is a question which may seem surprising at this juncture. We feel reverence before the starry heavens. We know what Kant has said of this. Ths distances of space and time fill us with dismay. On the one hand we are penetrated by Theism or Pantheism; on the other, grandeur impresses us. The sense of majesty is a human *sentiment*. It is comprehensible that we should feel it. But this subjective human feeling we must renounce for a time in the interests of profounder knowledge.

We can form estimates of value only from the human, never from the objective standpoint. Some will say: these tiny organisms on the relatively small heavenly bodies which are in a condition to shelter organisms have a far greater *value* than the inanimate mass and the empty infinities and aeons. But this is still estimating after a human fashion. Wheat, water, air, gold, health, life, 15° C. are values. Stone, ice, vacuum, death, —273° C. are not values.

We must not talk so anthropocentrically. I will not introduce a fictive Non-man, who, in converse fashion, values more highly, perhaps for the sake of crude quantities, vacuum, inanimateness, the absolute freezing point, etc. Our estimate of values, on a small scale, in our practical life, is thoroughly good and economical; it must not be transferred to the universe. In infinity and in eternity, before which our subjectivity vanishes, all estimates lose the basis on which they are made.

That without some relation to ourselves, to subjects, there can be no value or possibility of value, that the word "absolute value" is as utterly nonsensical as the expression "wooden iron,"(52) has often enough been declared by the philosophers, but it cannot be too often repeated.

To value belongs also the comparison of principles. For example, which is the more significant: the psyche or the physis? Or are they co-ordinate? To this one can give no answer. But if we ought not to *value*, lest we fall into anthropocentrism, we may venture to *compare* numerically, whereby

the macrocosm is of course revealed to us as a measureless darkness, in which only here and there glimmer some flickering sparks of life and consciousness. In the Einstein universe the minute lights are only $1/10^{100}$ of the darkness. To be sure, we must not overlook the potentialities of life and consciousness in the inanimate world, of which the coefficient is certainly not small, though it cannot be expressed in numerical terms. Of these questions we must presently speak in far greater detail. For the moment a preliminary and superficial glance at this realm of problems will suffice.

In the meantime let us grasp our insignificance more clearly by the verification of an annihilating impression: that of the time and space infinity, or at least immeasurability, which for us are practically the same thing. How small in fact is the Einstein universe! How small is the Milky Way if we take this for standard! But, in comparison with it, how minute is the solar system! How dwarfish is the earth in this system! And on this earth—for some seconds of its life—there has been formed, under accidentally favourable conditions, an organized mildew: Such are we! Such moulds are certainly to be found somewhere else in the universe. These are the inhabitants of other planets. How insignificant in time and space quantity are we! How insignificant we are in point of quality we shall see later. And we children long thought, and still think, that everything exists for us! We may be sure that on the planets of other stellar systems other such foolish organisms exist which also think in this way. And there have been such organisms already, a centillion times, in the course of limitless eternity. . . .

We are colours in a soap-bubble. In our thoughts we can accelerate the time-space of our life a billion times. In the face of eternity the 12 zeros of this cipher are but a digit. In the face of the universe a billion $km^3$ of our earth and a 4-$cm^3$ soap-bubble vanish with equal completeness. Let us imagine that miniature creatures exist on this soap-bubble, and are capable of living for 4 seconds, as we live on the earth, which perhaps can shelter life for four hundred million years. These creatures also have their anthropocentrisms, their meaning of life and of

the world, and their theism. They are the middle point of the universe; everything exists for them; the principle of the universe is an exaggerated *Homo saponarius.*

This is indeed an accurate picture of us human beings. *Tout comme chez nous.*

And the explanation of this monstrous error is the distorted perspective in which life and men appear to us. Of the distances of infinity and eternity we hear and read from time to time, but many of us know nothing about them. Our immediate surroundings, our fellow-men, our daily cares appear to us, through an optical illusion, by reason of their proximity, enormously exaggerated. So enormously, that they darken for us the prospect of the stars, which are enormously remote.

## NOTES

49. Approximately could one say that this is a fraction of which the numerator is one, and of which the denominator would be expressed by $\frac{3}{2 \cdot 10^{13}}$; or at least 1/10 billionth of the weight of the earth. I assume that the number of human beings is 2 milliards, and that each, on an average, weighs 60 kg. (This is rather too much than too little.) On the whole, then, 120 milliard kg. There are more animals than men; there are, of course, large animals; but cows, horses and elephants, and other domestic animals excepted, these are on the whole *few*. Insects and micro-organisms, which indeed are countless, make up for their number by their small volume. Let us say, therefore, that animals weigh three times as much as the totality of human beings; we have then 360 milliard kg; with man, 480 milliard kg. The plant world I leave out of account; plants, too, are organisms, but of another kind than animals and men. The earth weighs $6 \cdot 10^{24}$ kg; animals and men some $480^{10}$, or rather more than $4 \cdot 10^{11}$; so the ratio is $\frac{3}{2 \cdot 10^{13}}$.

50. I am aware that in this reckoning I have treated the weight of living creatures as identical with the cubic contents: I have adopted the simplifying fiction that animate and inanimate matter possesses on an average the density of water. For the greater part of matter this certainly is not the case, but we have stars of very small density (type Betelgeux) and very heavy stars (Sirius B, van Maanen).

Figuratively, these fictive numbers are entirely sufficient for the attainment of a reliable impression.

51. Having constantly spoken of these enormous empty spaces, I could not leave the ether of space unmentioned. For a definite time it has played an important rôle. Mie, for example, not to mention other investigators, believes, as we read in his book, *Molekule, Atome, Weltather* (Molecules, Atoms, Universal Ether, third edition, Leipzig, 1911), in something which is not matter, but yet must be *something*, since it is electrically conditioned, and since within it light, electric, and other waves are transmitted, but of whose existence we have no knowledge. Until recently the ether was held to be omnipresent; it was present, of course, in atoms, and the space between the nucleus and the individual electronic orbits was filled with ether. All matter of known composition, and accordingly all that consisted of negative and positive electricity, was merely "a kink in space." The empty space, the "only-ether" was normal; the exceptional thing $\left(\frac{1}{10^{48}} \text{ of our universe}\right)$ was the agglomeration of electricity, if we dare call it so.

This ether was everywhere and in everything. That it was neither matter nor substance goes without saying; but since we could not think "only academically," "only geometrically," or "ideally" of the universal of vacuum of "space," when we spoke of universal space we meant "the ether" in its infinity. Of course, it was not authenticated that it existed everywhere, nor that the gap between the higher universe-systems was not emptier than the empty space of the universe known to us. In its infinity it could be accepted as an image of the Absolute; though, of course, a very imperfect picture. But the contradiction: it is something, and properly speaking it is nothing, always affected us strangely, owing to a certain lack of any object of comparison. At present, since Einstein, we no longer believe in the ether; we know only the empty spaces, only the vacuum. I must admit that these questions are not sufficiently decided. We do not know how these things will be conceived after a hundred, a thousand or more years. And they are questions of the greatest importance. It may be that rays are reaching us from the remotest super-universes. "Indeed, so far as scientific observation goes, it is entirely possible that the radiation of thousands of dead universes may even now be wandering round space without our suspecting it," says Jeans (I, p. 350). "What would bother us, and would indeed upset the balance entirely, would be the radiation of a hundred thousand dead universes, if this were for ever streaming on to us out of space; in this event the earth's surface would have to rise to a temperature well above that of boiling water before it could restore the balance between the radiation it received and that which it emitted. In a

word, "the radiation of a hundred thousand dead universes would boil our seas, rivers and ourselves," says Jeans (I, p. 353). I think that solely through reciprocal contact—radiation between the super-universes—death through entropy may be diverted from individual universes. It is only because of the infinity of the universe that it has not hitherto come to grief; it is only because of infinity that we are not forced to take refuge in some *deus ex machina* of a readily available energy, and that the origin of the world must not be explained with the aid of some kind of creationism. For this reason I am of the opinion that in infinity there is some kind of *continuity*, and whether or not this is the ether, there still exists a certain possibility of reciprocal influence between the individual systems. They can hold fast to life together through radiation, but so soon as external energy ceases to flow to them they are threatened with destruction by entropic death. Candidly, there is much here that is not yet clear. The measureless distances, the conditions of dispersal, the infinitely modest occurrence of matter as against "empty space," do not seem to support this view. But meanwhile we cannot otherwise explain "potential life," even in its minimal form on the inanimate, glowing stars. I would even say that we are doing precisely this when we derive "life" merely from inanimate mass possessing potential life, which is able to attain the complicated qualities of an organic chemistry; and precisely thus, as something not yet quite a picture, something quite schematic (not yet experimentally proved), I imagine the origin of peculiar "electrical conditions in space," i.e. electricity, i.e. energy, i.e. matter, out of *empty space*. We do not know exactly what this empty space is. But these three unknowns—$x$, $y$, $z$, of empty space, matter, life—persist, and stand apparently in some kind of *connexion*. Potentially electricity pre-exists in the so-called empty spaces. Potentially life exists in matter; but we must reflect and observe a great deal before we can understand this more clearly.

52. Cf. Müller-Freienfels (see note 2), pp. 454, 460, 472; Heinrich Maier, *Wahrheit und Wirklichkeit* (Truth and Reality), I, p. 66. There are, of course, many passages in Mauthner, especially in the *Wörterbuch* (Dictionary), III, article *Wahrheit* (Truth). Cf. pp. 395 and 409.

## CHAPTER VII

## THE ANIMATE AND INANIMATE

WE said in our last discussion that in the Einstein universe of the fourth order alone the cubic content of the animate amounts to $\frac{1}{10^{100}}$ of the inanimate, if not only the space but also the time factor is taken into consideration. It is as clear as daylight that the portion of the macrocosm which is animate and possesses consciousness must appear to us far more precious than the remainder, which may be expressed by $\frac{10^{100} - 1}{10^{100}}$. The ratio, if not numerically parallel, is much as though we were to obtain, from ten tons of ore, ten grammes of platinum; or as though from a still larger mass of ore we obtained a milligramme of radium. The total of cerebral substance means more to us than $n$ billion km$^3$ of stone and glowing gas, and far more than the super-$n$-tillion km$^3$ of empty space. At the same time, we have said that such an estimate would be a hominism, which would be out of place in a treatise on "the Ultimate."

There is no disputing the fact that the notion of these small flickers of consciousness in the limitless gloom of the inanimate and unconscious constitutes, for us human creatures, a very dismal picture. It is regrettable for us, not only that there is so little life, but also that our own life is of such short measure. Man enjoys a brief duration of life, and the planets also upon which life exists, and the systems of which they form a pact, have only a relatively brief life-duration. And even though there is always new life coming into being, yet it is no longer *our* life. We deplore, and must deplore, that we continue to lose *our* life; and in a less degree, that our stars and systems continue to lose their "life." From the non-hominist standpoint it is of course indifferent whether our life has duration, or even whether there is life at all; whether an insignificant fraction of the universe is animate or chiefly

inanimate. There are still empty spaces without matter and without life. There are possibly other systems where there is proportionately more life than among us. Of course, if we judge by analogy, according to our scientific experience, this is not particularly probable.(53)

The hundred in the indices of the denominator of the fraction which approximately gives the ratio of the inanimate to the animate in our metagalactic universe, can be increased or reduced at will for the universes co-ordinate with ours. It is of course unthinkable that this index could be $-1$: this would mean 100 per cent of animation. But after all, such reckoning is only a mathematical game. We know only our universe, and in this the amount of life is trivial; its ratio to the inanimate is pitiful.

In view of all this, it is not surprising that this philosophical standpoint, so dismal for life, and above all for us men—this numerical degradation of the psychic—should find its *opponents* among men. They maintain that these numerical figures have no importance, and that thus it results that life and consciousness are not limited to what appears to us living and conscious. We encounter the protagonists of this view in different shapes. I have endeavoured, as an aid to the comprehension of the natural scientific and philosophical *Weltanschauung*, to make a classification of these opponents. On the one hand, we find them in the world of naïve realism, in which animation is accepted within the framework of the sensualistic world-picture; on the other hand, we encounter the philosophical tendencies of spiritualism, and the different idealistic modes of conception. The first groups can be incidentally described as:

(A) Naïve dualists:

1. Animism among natural and primitive people, who ascribe consciousness to plants, stones, and so on.

2. Pan-psychism (which in the world of naïve realism corresponds to the Leibniz philosophical monadology and pluralism) believes in an animation analogous to ours. We find it, for example, in Fechner's conception of the animateness of the heavenly bodies.

3. The theory of stellar giants (e.g. in Lasswitz). The fine

chemism of our brains can imagine an analogy in the macrocosm in which suns resemble atoms.

4. The belief in an undivided psychic infusion of the world or universe (world-soul).

(B) Spiritualists.

While the naïve dualists believed in a co-ordination of both principles, here either the psychic principle is ranked above the material, or the existence of the material principle is denied.

1. Spiritualism as *pure*—i.e. metaphysical spiritualism—hardly, of course, appears nowadays in philosophy. It is the prerogative of the religions to have preserved it in this extreme form. It assumes that the spiritual is the primary principle by virtue of which the corporeal acts. With the body the soul is co-ordinated; with the universe a psychically conceived God.

2. What is sometimes held as a *philosophical* doctrine is the "epistemological" spiritualism, which is advanced in a weakened form as different varieties of the S-philosophy. To this group of thinkers belongs, e.g., the psycho-analyst Jung of Zurich; also the vitalists, with Driesch at the head, with their dominants and entelechies, are not far removed from these views.

(C) Idealists.

Since they too depreciate the value of the material, the idealists among the spiritualists are ranked somewhat as follows:

1. The metaphysical idealism of the Upanishads, which believes that our "self" (Atman) is absolute. It is differentiated from spiritualistic monism only in this, that the "self" of the Indians is no more than a psychic principle, although they would like it to be accepted as representing something else. Its absoluteness and its identity with the principle of the external total universe is expressly emphasized. Between this principle (Brahman) and the inner principle (Atman) there is no systematic difference. This comparison claims more than anyone in the Occident can claim of the relation Soul-God. The so-called world of perception does not exist here; it is *maya*, illusion.

2. The idealism of Plato, which posits super-conceptions that

arise within us as a psychological process, subsisting as a permanent absolute world outside ourselves.

3. The idealism which is critical of knowledge (negative idealism) of Berkeley. There is no being, there is only perception; no O, only S; *esse* = *percipi*; thereby an objective *esse* = nil. I realize that the positive idealism of Vaihinger, which is a fictionalism and agnosticism, is no more than a name, and there is no question of it in this connection.

Let us consider these individual opinions. In the *first* place, the naïve dualism.

(1) In its primary form, as the *animism* of savages, and perhaps also of the higher animals, which to a certain extent endows everything with life, this view is perhaps the oldest of all, and was once the most widespread, and historically is of great importance. In this form it has, however, ceased to survive, and is not taken seriously by the educated world. We can therefore pass it over without misgiving.

(2) *Pan-psychism* too prevailed as a mythology. Trees possessed their hamadryads, rivers their water-nymphs, the hills their oreads. There was a whole Olympus full of gods. Among the Greeks a glorious faith, among the Indians much less sympathetic, among other polytheists much less lovable. In the background lurked fetishism and shamanism. Psychologically considered, all this was an infantile self-deception of primitive man. Nothing lay closer to him than the experiences of the individual ego. All else he imagined in his limited fashion, and depicted with the same limitations as those of the ego. All the anthropomorphisms of the world spring from this pan-psychism. Man implanted a soul in fetishes and believed in ghosts; everything was animated; everywhere he saw beings fashioned after the likeness of the individual ego. And as he had learnt to know the phenomena of sleep, dreams, and death, he began to believe—a form of faith which has so often been elucidated already by many earnest thinkers—that the "ghost" was something independent, not related to bodies. This is the *proton pseudos* of all the religions, of all those beliefs which still trouble our gaze, and from the fetters of which we even now cannot entirely free ourselves. In this way arose

the belief in enduring life after death (Rhode, *Psyche*, p. 1): but side by side with the superstitions of the different religions there arose the "word-realistic" philosophy, belief in substance, substantiality, and the *substantive*, of which we must treat at greater length.

But now to return to our theme: Mythological pan-psychism, perhaps, no longer has its earnest champions. No one any longer seriously believes in hamadryads and fetishes. I must not enlarge this statement too far. Many still believe in ghosts; even many people of the Occident.

Between the old and the modern pan-psychism there exist only differences of degree. We no longer believe that a nymph dwells in the oak or the willow—something like a complete human being; we no longer believe that from the river there emerges a kelpie, Inachos, Alpheus, Ganges, or Father Rhine. But we believe in a partial animation. If we remain on the firm ground of serious science, and do not venture into the realm of superstition, we must recognize the following:

(*a*) Before all else we must recognize that there was and is no life without protoplasm, no consciousness without a nervous system, no higher spiritual life without a brain. Belief in a bodiless soul is a primitive abstraction, which has arisen in the way explained above. Whoever will go farther with us must get this absolutely clear in his mind. Babble about *animus* and *anima* (or their corresponding designations in other languages) is unknown either to Homer or to the Old Testament. The conception that the spirit is a special principle derives from a time which had no suspicion of the relation of the spiritual to the nervous system. This cardinal recognition of modern science is the basis of everything, and will continue so for a period of which we cannot see the end. For example, if Christianity were to arise to-day it would have no doctrine of a separate soul, which it had to take over from Platonism, or more exactly, from the neo-platonism of its time.

(*b*) It must be declared that the higher animals possess a soul-life: the difference existing between them and us is only a gradual one; as to how far the soul-life extends is a logomachy. When our words "soul," "spiritual," and so on arose,

man had no suspicion of the soul-life of animals, nor of the relation of the spiritual to the brain and the nerves. The soul was in the body as an abiding *daimon*, which at times left it in order to return, but at death abandoned it for ever. What men believe to-day, what man has believed since the words of our language have attained a settled form, it would be hard to say: perhaps that only the higher vertebrates have a soul-life, or all animals, or even the protoplasmata. I think it right to extend the conception of the spiritual to the utmost in our deliberations. I do not doubt that the rudiments of what we call the spiritual exist in all living creatures.

(*c*) As for the plants, I do not deny that they certainly also live, but their life is like a permanent sleep, and consequently has little intensity; in particular they cannot, as far as we are able to judge, perceive the difference between pleasurable and unpleasurable feeling. Animals, however, are our brethren, only our brain is more concentrated: hence our spiritual life is more complicated, "higher." It is perfectly possible, and practically almost certain, that in other constellations similar organisms exist which will eventually develop, or have developed, far higher intellects than our present one, as we in time shall possess an incomparably higher inner life than we possess to-day. Perhaps that life is bound up with C, O, H, N. Perhaps also the life-conditions on other planets (54) are different from ours; but a life unconnected with the chemistry of matter is a scientific fable.

(*d*) Now we come to the question as to whether some kind of infra-life resides in so-called lifeless matter. Here we must candidly say that we cannot in any way draw a definite dividing-line which would separate the combinations of the elements into life-producing and the opposite. Since the life of protoplasm is possible, it is probable that among the lower, if not in all combinations, there is a kind of sub-life, just as magnetism is manifested not everywhere but only in certain materials.(55)

(*e*) Of course life, and sub-life, is *potentially* possible everywhere, because, as we shall see later on, it may be accepted that from a *higher* standpoint there is no difference between

the elements, and that it is not only what we designate matter that in a deeper, not to say a metaphysical, sense of the word, *properly speaking does not exist*. At all events, there is no "substance," as is, unfortunately, too often believed. Now we come to an unknown sphere, where even the realm of hypotheses ceases. And it would be a matter for wonder if we had come to know anything of it in the short time since we have paid any attention to it. It is possible that we shall never know anything about it.

(*f*) The so-called sub-life, or potential life, will above all be the distinguishing mark of matter. But now we know that life is confined within a narrow circle of a certain range of temperature, air, and light, and a certain range of substances. Where all these do not occur, potential life must be widely removed from what we call our life. It is necessary, if we establish the difference between the lower stages of life, to mention also the difference between life in sleep, which is perhaps a primary form of life (compare the lower organisms and plants), and conscious life. The great cell-states must manifest conscious life. Without a central direction, without "consciousness," they come to grief.

(*g*) Life arose neither through a miracle nor through a panspermia, as meteors come to us from other heavenly bodies.(56) It was potential in the universe at all times as movement, and heat-energy; as matter. There are, as we have already emphasized, not *only* death and not *only* empty space. It would be improbable that *only* these should be present.

But it is a matter of taste and convention, as to how far and where we should speak of life. The stages of conscious life, animal life, sub-life, potential life, must be clearly distinguished from one another in nomenclature.

(3) Let us now consider farther the life of the planets. It is noteworthy that those who dispute a soul-life for the dog, the horse, and the elephant believe without reflection that the primitive matter of the sun and the universe may possess an intensive life, in our sense of the word. In the first place I will mention Fechner's animation of the planets. All sorts of things can be convincingly maintained. According to our

science, however, it is most highly improbable that the inorganic earth-mass, for example, which consists for the most part of magma, possesses an organic life and "consciousness" in our sense.

As soon as we begin to speak of these things we find ourselves, like Columbus and Magellan, on the open sea. If we throw the compass overboard—the little that we are able to establish by scientific methods—it is all up with us, and we sink down to the realm of superstition. In earlier times everything was humanized without reflection. Following a more or less conscious analogy, the proposition was tacit: "I" am an "individual being," the tree, the stone, the river, the mountain is an "individual being;" "I" possess consciousness; every object that I perceive as an individual, as an individual being, likewise possesses consciousness. In the meantime it was discovered that consciousness is bound up with a nervous system, a brain, etc. Briefly, consciousness has its physiological assumption. According to this a piece of stone is not animated as I am. Neither is the earth. Where are its analogous organs, its brain, its nerves? It may be answered: "It needs none; it may be that there is another kind of consciousness, not associated with a nervous system, a brain, or organic matter." This would be, to recur to the above comparison, nothing less than throwing the compass overboard. It is further objected: "those organs exist *in the interior of the earth.*" According to a probability, which amounts to a certainty, we reply: "They cannot be found there, for down there are hot, glowing, inorganic materials which possess a very simple chemism. According to our experience life is impossible under such conditions of heat and pressure." The life of this planet is not like our own. The planet as such, taken as a whole, must certainly be inanimate; on the other hand, there exist on its surface 2 milliards of human lives, many milliards of animal lives and forms of animal sub-life, many milliards of vegetable sub-lives, and countless milliards of potential life-forms.

We can illustrate the ratio of the planet to its inhabitants by a comparison which, at the same time, is chosen to unmask the base and valuing hominism peculiar to us human

beings, so that it plainly indicates the way which we must avoid.

The earth, with its petty inhabitants, may be compared with the human body, in the large intestine of which are living millions of bacteria. The difference between them is evident; in the first case, the earth is unconscious, but we, men and the animals, who live on its surface, have consciousness; on the other hand, the *human* body is animated, and to its "inhabitants" we can concede only a kind of sub-life. But this is unsymmetrical, and, so to speak, unworthy. Symmetry and analogy are not qualities of Nature, and worth is a really absurd word in the higher spheres of human thought; a positively lower hominism. There exists in Nature, rather, a tendency to assymetry.

But let us now consider this matter more closely, but still from our human frog's point of view. In the first case, the central human consciousness is more important, and the miniature pluralism (e.g. the sub-life of the bacteria in the larger intestine) seems to be subordinate. In the second case, the unconscious centre (the inhabited, lifeless planet) seems to be subordinate, and the miniature pluralism (we men and the animals) dependent on it is the main thing.

We see immediately: We men were, and always are to ourselves, the main thing; our consciousness is always worthier than all other things; but this comparison, and this kind of valuation, and also the conceptions of "main thing," and "subordinate," are inferior, hoministic, anthropocentric.

If we avoid these conceptions, the case seems to stand as follows:

There are inanimate entities, on which exist swarms of small animate entities on or in which swarm still smaller sub-living entities. The current use of language designates the occasional smaller entities as individuals, without giving much thought to the matter.

This is already a better view, and we shall stop short at this *pro tem.* In the words "small" and "great" our hominism is more latent, and is therefore, for the present, unobjectionable. Therefore, according to the present stage of science,

reckoning with the greatest probability—limited as to its certainty—our earth as an entity is neither animate, nor has it a soul.

Let us consider this: why should a mere $1082 \cdot 10^9$ km$^3$ of stone and magma, with its hydro- and strato-spheres, which constitute the cubic contents of the earth, be animate as a unity? Why not its parts, e.g. every $1082 \cdot 10^7$ or $1082 \cdot 10^6$ km$^3$? For this reason—because in attributing animation our intellect aims at introducing order into its surroundings, so that the earth may be an epistemological unity. Before that great cosmic event, which we, according to the Kant-Laplace theory, or some other modern theory, are accustomed to call the rise of the planets, the earth was no unity, since if it fell to pieces it would not be the same again; but I should mislead the reader if I were to emphasize this objective "unity" here. As unities we grasp every moment at something fresh, according to the momentary interest of our observation: the wall, the house, the street, the parish, the city, the country, the quarter of the globe, the surface of the earth, the cubic contents of the earth, the stellar systems 1, 2, 3, 4, and so on. These unities are *within ourselves*; in Nature *there are no limitations.* We feel ourselves as such a unity, and we fictively divide the world into unities, and combine these into other unities. In truth, that unities *exist* is an illusion. The mark of one of our *empirical* unities, the ego, is consciousness. Therefore it is only too understandable that in consequence of the superficial analogical judgment, "Every unity is a kind of ego, and has its consciousness," forms of animateness were designed to meet occasional needs. The ancients ascribed souls to trees; Fechner, again, to the planets; religion a soul to the macrocosm.

It is perfectly clear that what has just been said of the earth applies also to the sun, Sirius, and the other stars; i.e. that consciousness cannot be objectively associated with glowing gases; or at least, in the light of all that we know to-day, that there is not the least probability of it. The *original* condition of our world-view: that every unity possesses consciousness, and that of *to-day*: that all "unities" are deprived of conscious-

ness, with the exception of those which fulfil certain preliminary physiological conditions,(57) indicate a progress, a great and important progress; especially when we consider why huge glowing balls can objectively have no consciousness; and why, on the ground of some childish analogy, in accordance with the stage of our knowledge at that time, the old error about animation *must* have arisen. Let us consider further:

The complicated cell-states with billions of cells were obliged, if otherwise doomed to perish, to engender a central control; i.e. animation, consciousness. The potential life was guided in a certain direction. So, as sense developed, "consciousness" developed generally. Those cell-states in which no "consciousness-unity" was formed could not exist, but died out. Hence we come to a dual conclusion:

(*a*) What in the enormously complicated, and hence enormously feeble chemism of living material was an indispensable necessity—the production of a kind of *conscious* central control, without which the existence of such a formation would be endangered—in the case of stone ($SiO_2$), water and magma, and in the interplanetary empty spaces, would not be necessary, and certainly not possible. Chemically simple matter was not in danger; it was unimportant whether it retained this or that chemical form. The complicated chemism of living matter would, however, have been imperilled if it had not engendered consciousness, and obviously would not have been able to hold together. The cosmic inertia—i.e. the necessity that the living should remain living and the complicated remain complicated —symbolizes for us men the *cause* of the animation of complicated structures of matter. I am perfectly aware of the metaphorical nature of this language. The last proposition is simply hominstic. It does not, as is so often done, envisage "inertia" as a sublimated godhead; it is merely yet one more human super-concept, brought up to date, which makes a series of similarities, a similar series of causes, comprehensible and accessible to human intellects. In Nature there are only individuals, only single appearances. The necessary work of introducing order into these, by means of more or less sublimated universals, is a human activity.

(*b*) Real unities are only organic unities which possess the *ego*-feeling. According to this I myself, my fellow-men, and the animals are real unities. I cannot imagine myself plus the chair on which I sit as a unity, or myself plus the table at which I write (as a centaur or something similar). On the other hand, it is possible for me to imagine so-and-so many $km^3$ of inorganic stuff as a unity. At one time, Mont Blanc is to me a mountain 4,807 m high, seen from the Vallot observatory; and then the Dôme du Gouter no longer forms part of it. At another time it is the whole "Chaine du Mont Blanc," to be compassed in two days by motor. At another time I grasp the whole system of primary rocks, or again, the whole of the Alps, as a unity. At one time I conceive England, or again, Europe, Asia, the dry land, the world-ocean, as a unity. The South Polar continent we divide, quite schematically, into four squares. Is, for example, the Enderby square a unity? In an actual unity with a psychical substratum an arbitrary increase or decrease of its circumference is impossible. With the inorganic "as-if unities" such modification is entirely arbitrary.(58)

(4) A certain similarity between the minute structure of matter and the solar systems (negative electrons revolve in certain orbits round a positive, relatively heavy nucleus, somewhat as the planets revolve round a central star), and further, the speculation that the life of atoms in the grey cerebral matter accompanies and enables our thoughts, lead some thinkers—the best known among them is the popular writer Kurt Lasswitz—to the fantasy of star-giants.

The atoms in the brains of these star-giants would be the individual suns with their planets. The microcosm of atoms and the brain-structure would here find an analogy in the macrocosm of the solar systems.

The size of one such star-giant surpasses, of course, all human powers of conception. The number which represents the swarm of molecules existing in human bodies possesses 24 digits. How many electrons must that be? For the brain alone these figures are enormous. And in the structure of our star-giant a solar system with a radius of $6 \cdot 10^9$ km means an

atom. I do not know how many *n*-tillion stars and how many systems make up a metagalactic system. And I am afraid that we shall never be able to fit our "giant" into this immeasurable star-picture.

At first sight this fancy is quite plausible. However, I make the following suggestion: The analogy between the composition of solar systems and that of inorganic matter is, of course, striking. If, however, organic stuff consists finally of protons and electrons, in the molecular combination of complex living matter, something is added which does not exist in the inorganic. All that we know about the macrocosm points to very great simplicity in the construction of the mass of the enormous majority of the stars: as soon as their atoms are destroyed their protons and electrons are set free. Of integration—at least, within universes of the fourth order—not the faintest vestige can be observed. And the higher systems are a pure product of speculation, derived from the human impossibility of imagining a higher than our familiar metagalactic system. We see nothing of an integration—though this must have its beginning somewhere—in which our powers of observation and imagination make it possible for us to perceive an end. And all that we know about the universe indicates merely that the problematical universes of the fifth and higher orders must be more empty, more inanimate than the systems known to us. The belief in star-giants is thus a truly superficial fancy of our all-animating intellect. The vastness of the empty cosmic spaces, the minuteness and the primitive chemism of the stars, indicate something other than a state of being similar to our complicated human life.

He would certainly be a remarkable "star-giant" whose brain was formed of our Einstein "nut." Approximately $\frac{10^{48} - 1}{10^{48}}$ of its cubic contents (or the whole, apart from one octillionth) would be *empty*, and subject to a temperature of $-273°$ C. It will be seen that this fancy vanishes as soon as we analyse it a little more closely.

(5) There remains the "world-soul." A star-giant would be a comprehensible figure, even if his cubic contents amounted

to a hundred-digited number of $km^3$. In comparison with the infinity of the totality of everything he would be as Lilliputian as are we ourselves, or our smallest bacteria. As against us he would be enormously large. But he would have an *ego*-feeling, would represent a personality; he could form the conception of subject and object, of *ego* and *non-ego*; he could live for aeons of years, but he would rise and fall. Higher forms of integration, whose organization would give rise to a higher consciousness, are at least conceivable. But the contrary of this is also thinkable. In spite of its enormous size, the consciousness of a star-giant might remain at a lower stage than the human. With such a qualitatively insignificant integration, and the *petty* feebleness arising from its *relative* simplicity, there might be a question of an infra-conscious twilight-life, which in intensity and quality could bear no comparison with our human life, and would hobble far behind it. A whale cannot be more sagacious than a poodle.

But all these difficulties increase enormously if we animate the whole universe; they would hypostatize an all-soul, a psychical correlative to the universe.

What do we mean by world-soul? We have very many words for it, more than Homer has used for the spiritual life or the spiritual principle within us. So many words, and no single definite representation, much less a conception. Only an indefinite groping. If we speak of "world-soul" or "all-soul," we think in the first place of something similar to our own soul, own *ego*, our *ego*-feeling; though on an enormously exaggerated scale. Corresponding to the relation of the world to me, so is the world-soul to my soul. The existence of such an entity is disproved:

(*a*) From the logical standpoint, since as the universe is infinite so must its correlative (the world-soul) be likewise infinite. A limitless personality is a logically contradictory conception; every personality is conceivable only if it is represented as less than infinite, because the main sign of personality can be perceived only in the polarity of the proposition *ego*—*non-ego*, outer—inner, S–O. If there were a world-soul, it would be infinite, and therefore the equation must be: $S = \infty$:

thus it would properly be also O. In a word, there would be postulated an unjustifiable transfer of the conception S, the conception *ego*, to a sphere to which it does not belong. If anyone objects: "There is perhaps such an *ego*, *toto genere* different from every empirical *ego*," this means changing the content of the concept, but retaining the same name. This is, of course, a grave logical error, and an abandonment of the scientific method.

(*b*) From the psychological standpoint: one should not pass the unconsidered judgment: If I, a small creature, possess a soul, so also must the All possess one. This is the crudest anthropomorphism.

(*c*) From the empirical standpoint there is no reason for admitting that empty space, with its relatively small store of energy, should be as intensively animate as the cell-states. Without consciousness these are impossible, since consciousness is their weapon; anxiety for the continuance of the almost empty and inanimate universe is, however, superfluous.

(*d*) If anyone maintains: "The answer to this question exceeds our intellectual capacity; it lies in the transcendence," one must agree with this, at the same time adding that of this transcendence nothing positive can be said. It would be the height of audacity if we attempted to smuggle into this negative transcendence the mechanically exaggerated human soul.

Here we must not overlook a few words which are recognized as almost synonymous with "world-soul." For in addition to the term "world-soul" there are certain representations and alleged conceptions which stand on the same footing as "world-soul," and are used interchangeably as synonyms.

There is on the one hand a conception of God which is more anthropomorphic, more positive, more concrete, and much less sublimated than the world-soul. Of this may be said, in a higher degree, what has already been said of the world-soul. The conception of God is older and more materialistic than the world-soul; but there are conceptions which have developed in the course of time, by means of abstraction. Of these I name: the *In-Itself*, the Absolute, the *Hen kai Pan*

Much more must be said concerning all these conceptions in later chapters. Here the relations of these conceptions to the world-soul may be concisely described as follows:

(*a*) The *In-Itself* is a metaphysical abstraction. It is not a psychological, a noetic, conception, but the pure object. It must not be identified with the soul. It originates from entirely different regions. It is the expression for the circumstance that we know only *appearances.* It is the expression for the fact that our recognition is simply no "recognition." The *In-Itself* is the *first* condition of appearances, which are possible only if the sense and the intellect, that is, the S, enter as the *second* condition. It is a negative conception, a limit-conception.

(*b*) Still more negative is the "Absolute." All that we perceive are exclusively relations. The "Absolute" means only the negation of relations; but it is, at the same time, the superlative conception of every philosophy, and we shall discuss it in fuller detail in Chapter XI. Here it suffices to establish that the world-soul, compared with the Absolute, means far less than the Absolute; it is only a psychic principle, an S on a large scale, which to a certain extent stands behind the universe, whereas the Absolute is a synthesis of a whole series of principles, S and O, of course, being included therein.

(*c*) *Hen kai Pan* is a quantitative abstraction, in which the emphasis lies on the first word: the *totality* is a *unity*; whether we proceed rightly, whether we regard all possible differences in the single appearances of which the universe is composed, and look upon them as a unity, depends on the standpoint from which we set out. As an order-principle the "unity" of the universe, however fictive, is economic. Metaphysically it does not admit of being postulated, since it includes a quality, a kind of concentrative faculty, which we know from our own experience, our *ego*-feeling, and which we should not transfer, unjustifiably, to infinity.

I have already said that we shall discuss these conceptions later. We have introduced them here only for the reason that they are often wrongly confused with the world-soul. They have all, of course, the same genealogical tree; they are all sublimation-forms of the same concrete conception of God;

sublimation-forms of a figure which descends by analogical reasoning from the single "*ego*-feeling."

## NOTES

53. Jeans, I, p. 358 ss.

54. It was at one time accepted that on other stars organisms might exist in which Si would play the part of our C. That these would be organisms far more capable of resistance and duration than those we know was also arguable, on the grounds of the quality of flint. Thus the Titan was hypothetically set in the place of our earthly C. To-day, however—that is, at the present moment—all these combinations are discarded as fantastic, and it is accepted that in our metagalactic system at least all life is bound up with C. This is consonant with our present more united and less fantastic view of the universe. We compare the results of spectrum analysis, and the presence, established on this basis, of similar elements in the whole universe.

55. We must consider that the normal temperature of by far the greater part of matter (some 95 per cent of it) in our collective universe-system amounts to some 1,000,000° C. Correspondingly, this matter appears very simple, the atoms being ionized (Eddington, *Stars and Atoms*, p. 84, also p. 11); at all events, they are partly without electrons; perhaps these keep only to the inner orbit K, while L and M have torn themselves apart. This extraordinarily aged matter approaches the zero point of cold. If its temperature sinks to 300° above the absolute zero point—that is, about 27° C.—one of the given conditions of life appears, while in the course of the fall of temperature chemical and physical conditions have come about which make possible the atoms of the compounds we know. Matter at 1,000,000° C. of heat has an uncommonly simple life: merely the motion of glowing protons and electrons, and various forms of rays. The more complicated chemism is connected in nature with the cooling of matter, and is very rare. Further, cooled matter very seldom encounters such narrowly circumscribed conditions of heat as prevail on the earth and make life possible. From this standpoint life would be a sort of degeneration of old and cooled matter (Jeans, I, p. 364), which very seldom occurs; and, on the other hand, the glowing, simple, youthful condition of matter with ionized atoms would be the normal state. Besides these two conditions a third is possible, with a heat of ten million, aye, hundreds of millions of degrees, in which complete ionization takes place. This is the case in the interior of the stars, under the terrific heat and enormous pressure of the so-called "white dwarf" stars (Jeans, I, pp. 303–337 ss.).

56. Nothing would be explained thereby. If on our earth life originated through the impact of meteors, it still has to be explained how it arose in the region from which they issued. And how should life come into being in many places, but not in many other places? This theory rather leads us astray.

57. Hence it is also admissible that we regard our fellow-men and the animals as living creatures and ascribe consciousness to them. This judgment is on the whole similar to that which extends consciousness to a tree, a stone, or other men. But in the last case the original naïve hypothesis could be verified—the other man possesses nerves, a brain, and consists of organic stuff. In the other cases verification is impossible.

58. A small contribution to this arbitrariness: Formerly men divided the starry heavens into star-pictures: Sirius, Canis Major, the Whale, the Virgin, Ursa Major, Boötes, etc. The hominism consisted simply in this, that stars were united which did not belong to one another, merely because to observers on our little earth they appeared to belong to one another. And it was also shown in the bestowal of names. How many hominisms there are in the star-pictures of the Ecliptic! To-day we divide stars into systems accordingly as human science, in its present stage—greatly advanced in comparison with that of earlier days—sees that they attract one another or encircle one another. This progress is similar to that of the plant and animal systems of to-day as against the childish division into harmful, useful, or poisonous animals and plants.

## CHAPTER VIII

# CRITICISM OF THE PHILOSOPHICAL SYSTEMS WITH A TENDENCY TO ANIMATION

THAT primitive man was obliged to animate Nature was due to a primary instinct; it was impossible for him to see his surroundings otherwise than through the spectacles of his existence-feeling. He could represent to himself non-existence after death as little as he could represent the powers of Nature without presuming the existence of mighty beings similar to men, which he called gods, and endowed with his *ego*-feeling; he conceived them as spirits. This human instinct—to see everything after the pattern of his *ego*, to animate, to personify —which leads to anthropomorphism—is unauthorized and readily understood. It even influenced men who were no longer children; it led up to most of our philosophical and even our religious systems.

It is often difficult to distinguish where the impulse of the innate passion for personification ceases, and where the customary *labor improbus philosophorum* begins. To us, who are inclined to regard the *ego*-feeling almost as a psychical, and the S-philosophy almost as an idealistic prejudice, much philosophy, of course, appears altogether too childish. Let us consider a little the philosophical systems with a tendency to animation.

As we have seen above, these systems may be divided into two main groups.

The *spiritualists* hold that spirit is the world-principle, and that our inner experience is more *worthy* than that which is communicated through sensual perception; hence experience is real, whereas sensory experience conveys an illusion. In other words, they believe in the metaphysical reality of the psychic.

The *idealists* are ranked with them, for the reason that they too reject the "in-itself" of the external world, the world of matter and human sense-experience. Their "thing-in-itself"

is, however, not of a psychic but of an ideal nature. They arrive at it always by way of speculation, and not through experience, or at least not *only* through experience.

It might appear as though the *idealism of the Upanishads* were a spiritualism, since in this system our deepest, inmost self, *Atman*, is the Absolute. But this is not so. *Atman* is no concrete psychical experience, as we are accustomed to grasp it in the Occident, but a philosophical conception, greatly restricted by abstraction, and identified with the principle of the external world. The origin of this idealism, however, is certainly the same as that of the human S in spiritualism.

The categories of *Platonic idealism* are, for men who believe in them, subjective "O." The platonists believe in the metaphysical existence of something that they imagine outside themselves.

The *idealism of Berkeley* believes only in the reality of sensations, that is, in S, by which the existence of the world of perception is denied.

All these systems possess the same characteristic, that they reject faith in matter and emphasize, i.e. over-value, something which is *not* matter.

As to *positivistic idealism*, which is a fictionalism, and hence sceptical and undogmatic, we need say nothing here.

(A) *Spiritualism* as a world-view is difficult to refute, but it is more difficult to justify. This is the standpoint of Christianity, and of the major religions of the Occident.

It usually proceeds from the following consideration: It maintains a dual experience: an internal, immediate experience, and an external experience, communicated through the senses. The former is "more reliable," the latter "less reliable"; the intermediary of the senses can lead us astray more easily than the "immediate experience."

On the other hand, we may affirm that both experiences are internal experiences; we can obviously be led astray by both; but experience of the external can be constantly controlled and rectified through our fellow-men. The internal experience, however, may be based on dreams (in the sleeping

or waking condition), illusions, and hallucinations; on different really dim and indefinite feelings, and other such things all taken together.

The external experience can be assisted by the photographic plate, the microscope, the telephone, etc., but the inner experience possesses no such auxiliaries to render it more acute. The two kinds of experience complete each other, and the internal experience without the external would indeed be remarkable. (The *ego* of Laura Bridgeman.) To make categories is serviceable for orientation; but the limits of consciousness (since the threshold of consciousness is a fluid boundary) are fluent, and accordingly the limits of both experiences are fluent.

In practice these limits do not exist; at least, not in the form in which people try from time to time to persuade us that they exist. In practice, to myself, the existence of my fellow-men, the existence of qualities and facts, is as certain as my own existence, and the processes external to me are more certain than my dreams and fever-fantasies.

I know that what I am saying is quite un-professorial, but I have no taste for emphasizing pseudo-problems (such as the problem of the other person, the difference between outer and inner). I reason somewhat as follows: I have often returned home from the funerals of other men, and have observed that although these men no longer live, and their subjective, psychical experience is as *nil*, the objects that formed the contents of their immediate sense-experience still continue. After such a funeral the arc-lamps shine on the boulevards as before, the people shuffle along the pavement, and the cafés glitter with light. It will be just the same with me one day. The physis is something more than my imagination. Further, I tell myself that my psyche was once *nothing*. And until the day of my birth everything was as it was without me. I see the beginning and the end of *my* psychical being; I see it also in others. If, however, time, and perhaps also the macrocosm, has no beginning, I certainly have a beginning and an end, as have all other creatures—men, animals, and plants—and all accumulations of atoms; they will all be dissolved anew.

I regard my *ego* as a feeling, as a necessary condition of the life of such a great cell-state as is my second, physical *ego*. In physics there has already been discovered the law of the conservation of matter and energy. The psychical reality, however—not the accompanying physiological, or better, chemical energy, but simply that which we call consciousness—is bound up with the cell-state, is its inner being, which presupposes, from the inner side of life, a vast number of conditions *which do not permit of remaining intact* in the long run. It arises and dies away. In the outer world there seems to exist a time-continuity, a great succession, apart from the continuity of recollection which forms my individuum. The human consciousness, the *ego*-feeling, had its beginning and will find its end. Moreover, it is broken by every sleep. Gradually it arose, not immediately, through generation or birth, but after these; gradually, slowly.

Alcohol, nicotine, and various poisons and drugs, affect our psyche in a notable degree. Sex, glandular secretions, sleep, hunger and thirst, pain of all kinds, electrical phenomena, heat and cold, and all sorts of conditions influence what we call the spiritual life.

A thing so feeble, dependent, and changeable, so limited by sleep, birth, and death, and also by infancy (when it has not surmounted this) and marasmus (which means its end), may be co-ordinated with the universe, even set above it.(59)

The empty spaces and the stars in their infinite settings of time and space permit, for a certain duration and at certain points, of a complicated chemism, accompanied by consciousness. But though this phenomenon will soon come to an end, the physis as such remains permanent. Consciousness will rise, integrate, and die away. And the physis remains permanent. Let us consider the numbers given above. *Mens agitat molem*: a proverb worthy of honour. Perhaps it is of value. We know not. But this we know, that *we* cannot get it out of our heads that our intellect is something of supreme value. The non-hominist philosophy does not deal with values. There remain only alleged matters of fact. And this means annihilation for us.

Spiritualism is still haunted by a valuing hominism and the atavism of inherited religious conceptions. The proof that the physis is a phantasmagoria and that spiritual experience is the only "in-itself" we must leave to the spiritualists. We are neither able to furnish it, nor is it incumbent upon us to do so.(60)

(B) And now, the three different idealisms:

1. It is agreed that the *Atman*, our deepest self, may be the thing-in-itself. Hence the psychical experience, the *ego*-feeling, has metaphysical existence. What then is the "in-itself" of an inanimate object, of that which possesses no self and no personality? Candidly nothing, *maya*. The great "in-itself," Brahman, lies in the transcendence, and communicates itself to us only through its emissaries, which reach us by means of the *ego*-feeling. (Compare Deussen, *Geschichte der Philosophie* (History of Philosophy), I, 2, p. 36.)

Hence the physis does not exist, or perhaps does not exist as O, as we conceive it; but behind it there exists some kind of "thing-in-itself," analogous to our S; i.e. the *Atman*?

Psychologically, we understand how the Indians arrived at this. They observed that the *ego*-feeling, the S-feeling, was an entirely different fact of consciousness from that of the presentation of the O communicated through outer perception. They considered this difference to be so important that they elevated the former to the metaphysical Absolute, while the existence of the latter was entirely disputed.

In spite of their depth and their celebrity, the Upanishads and their doctrines to-day are no more than material for the history of philosophy. The comparison *Atman* = *Brahman* is a latent, abstract anthropomorphism. Who dare say that this is actually the case? Naïve men have believed this, or something like it, at all times.

2. Among them, Plato. He did not realize the subjective nature and the psychological origin of the "super-conceptions." As soon as he arrived at them they began to impress him so greatly that he transferred them to the higher realm of metaphysical being, while he conceived individual existences as

the secondary reflections of these primary images. Platonism, in a wider sense, is a very widespread doctrine, which extends from the times of the ancients to the logic of Husserl or Heidegger. Between stand the philosophers of the orthodox centuries, and all the celebrated medieval realists.

It is as though human instinct were seeking to hypostatize images of the individual activities of abstraction! As though it were seeking to project parts of the individual *ego* into the alleged super-cosmos of metaphysical reality.

Man compares the horse, the ox, and the dog, and establishes that they have certain general qualities. Then he forms an idea of a something—he is quite unable to represent it—an idea of all creatures that possess the general qualities of these three without possessing those qualities by which these three animals are distinguished from one another. In some such way arose the conception of the "mammal." In nature there are only individual oxen, dogs, horses. Already each of these conceptions is an image of a human mental activity—abstraction. This is even truer of the higher conception, "mammal." But of old, men did not say mammal; another striking quality was observed, and men said "quadruped." Then came further abstractions—vertebrate, animal, organism, etc., until at last the philosophers arrived at the categories. These super-conceptions are aids to the human intellect; they help us to find our way about the world. They exist only in our heads. If we project them into the world outside us, they are projections of the ordering instinct within us, imaginary petrifactions of our concentrated attention. We see their incompleteness best when we reflect that they are not all abstracted in the same way; consequently, the super-conceptions were not all formed on similar lines. The Linnaean system is an illustration of what I mean. Scarcely anyone would believe to-day that in some super-world the *ideas* of plants with five or more stamens exist. To-day we arrange them otherwise. "It is natural, therefore right," we are accustomed to say to-day. Or rather: We arrange plants in a manner corresponding with our knowledge in the twentieth century. To-day our arrangement seems to us the sole possible and the sole correct

arrangement, just as in the eighteenth century, to Linnaeus, his system, and to Aristotle, two thousand two hundred years ago, another still more primitive and incorrect system seemed correct.

Perhaps, indeed, the abstractions of to-day are objectively better than the old abstractions. If we grant that they are the result of the corrections of many thinkers and many generations, they correspond with the mental situation of the people of to-day, of *homo sapiens vicesimi saeculi*. In the universe there is great reciprocal similarity; in Sirius, and in the other fixed stars, as well as in the anagalactic systems of Andromeda, there exist, on the whole, the same elements as on earth; complicated structures, however, possess the attribute that the more complicated they are the more they differ in their qualities. It would be incorrect to imagine that all the organisms of our Milky Way—or of the metagalactic systems, constituted like our own—must think and form abstractions just as we do.

Their abstract super-conceptions will probably not be the same as those at which we have arrived. Perhaps they will resemble them in this, that as regards their contents they will be mere empty symbols; but the process of abstraction and the architecture of conception will hardly be the same.

Generally speaking, it was the *mathematicians* (see the Egyptians, Pythagoras, and Plato) who arrived at the hypostasis of super-conceptions, a philosophy of the immutable, of substance, and the emphasizing of space, without considering the changed conditions and relations brought about through time. Mathematics and its apparently absolute laws were so impressed upon them as to lead them to believe in the absolute character of super-conceptions.

But even so we have another, and from their standpoint an entirely heretical opinion. It is no longer a mystery, for the newer critical philosophy, that causality so-called is properly identity—that it permits of being analysed, according to our momentary attention, into many ingredients, at many difficult moments. It is the same with mathematical axioms. Mathematical figures and dimensions are artificially robbed of all characteristics but that of quantity, and interest in them is

directed merely to this single aspect. I no longer mean five apples, five nuts, when I say five. And by this enormous simplification, this artificially established linearity, many things can be explained which used to confound us.

Apparently synthetic judgments throw off their disguise on closer inspection, and appear as analytic, identical judgments. $1 + 1 = 2$ is no great absolute truth, but the expression that one and the same one is the same, whether it is read forwards or backwards, whether regarded from the left or from the right. To us human beings, who learn that the conception of duality arises from two units put together (although we know very well that numbers are not conceptions in the narrow sense of the word), this is not clear until we tell ourselves that such a relation contains no absolute, although $1 + 1$ does not appear the same as 2, since we concentrate our interest first on the one side of the comparison and then on the other. It is just the same with $7^3 = 343$, for example, as with the axiom that parallel lines intersect in infinity. I imagine parallel lines, of course, as I have described them in my mental studio. Where a reality is a definite identity, a tautology, Heaven knows what mystery we imagine we have discovered. Mathematical expressions announce either tautologies or identical judgments, if they do more than merely exist in our minds. They are literally nothing, if we bear it in mind that by an identical judgment we affirm nothing new, and that *objectively* they do not exist. And on such bases stand Platonism and other systems related thereto.

It is certain that we cannot regard Plato's doctrines as other than historical; we cannot imagine that somewhere, in an alleged higher world, such super-conceptions as the ideas "horse," "ox," "bird," and the increasingly intensive conceptions, so poor in contents, of the higher universals, "truly exist."

3. I must still say a few words about Berkeley's idealism. The external world, the assembly of objects, does not exist for him; all that is without me is appearance, and everything exists only in my imagination. "To be" means "to be perceived," or "to be able to be perceived" (or "the possibility

of being perceived"). Almost as with the Indians, therefore, the world of our senses does not exist. This view, which appears to be philosophically irrefutable—so long as we do not simultaneously consider other subjects and their agreement in object-perception—must end, in so far as it is consistently worked out, in the disastrously familiar solipsism.

For us to-day it is obviously no longer irrefutable. A certain one-sided and consistent grasp of it is possible, according to which one can explain the collective external world as only a presentation, but the same experience of life which enables me to comprehend this shows me plainly that besides myself other beings (think only of our parents, without whom we should not be) and other objects exist; and through these other beings we arrive at a harmonious conception of objects, although we do not know what they really are. Hence arises the absolute necessity of considering that after my death and before my birth the surrounding world was and will be precisely as now, which must bring us to a higher valuation of outer reality (O) as against the transient inner reality (S).

Also a consideration of the food consumed (certainly O!) which in a digested state builds up the cells of my body, and conditions the constituents of my *ego* (which is certainly S) helps me to emerge from the fatal *cul de sac* of Berkeley's idealism, although I am aware that I can define my *ego* in different ways, now regarding it from the noetic, and now from the empirical standpoint.

Nothing is more certain than that the view that the external world is simply my imagination—the summit of my anthropocentrism—is incorrect. This view is merely evidence of the defects of our intellect, which are so great that it *must* appear irrefutable from a certain standpoint.

How much more correct is the view of Kant, that we do not perceive the external world as it is, but only as it appears to us from the data of our senses and our intellect; for which reason—as true "in-itself" remains unknowable—this standpoint is not the highest, as we shall recognize in the following sections.

We have said that Berkeley's view must logically lead to

solipsism. It is interesting, and not only in respect of its own time, inasmuch as it leads to the most radical Theism, because it completely destroys faith in the external world, but not faith in God, who caused us to have perceptions of the external, actually non-existent world. We can always think *something* of this external world; we know little of it, but we still know something *certain*, upon which we are all in agreement, and of which we can be at least relatively convinced. We can convince ourselves, indeed, by means of our incomplete senses and our intellect, of certain regularities in it which we call laws. Instead of this minor certainty, Berkeley provides us with the existence of a pure X, his own ideal figure, construed so incorrectly and unjustifiably that in its breadth and depth neither laws, nor regularities, nor experiences, but only superstitions and arbitrary choice have any value. Instead of a universe at least partly objective and certain there open the abysses of a boundless *asylum ignorantiae*.

Really, then, all investigation, all thought, all observation, all experience, all physical and chemical instruments, are entirely superfluous! Berkeley shows us how perverted the mind of man can be, how little we can rely upon our intellect. And he does not stand alone; there are many others who maintain similar positions, without by any means possessing his philosophical erudition.

If we should presume too far to-day, we have only to consider what a brief space of time has passed since this philosophy (I am thinking above all of its second, positive side) was modern.

The doctrine of Berkeley is really very similar to the doctrine of the Upanishads. Here, as there, we have the rejection of the external world, the absolute sublimation of the subject, which in the first case is the great Absolute of the All, and in the second case at all events its most important creation. How much higher, nevertheless, are the Upanishads, with their single, transcendent Absolute, deprived of qualities and utterly unknowable, than Berkeley, with his still merely anthropomorphic and apparently perfectly known extra-mundane God!

We have now come to the end of this part of our exposition.

It may perhaps have shown to our satisfaction how all the conceptions treated of in these chapters—the "spiritual," the mental, the subject, the consciousness—have arisen. Through a false analogy with our own empirical *ego*, upon the pattern of which they were formed, man translated them to a region in which they could not exist on the basis of a critical world-view. We can extend the spiritual only in a downward direction, where formerly we were not accustomed to see it. It pertains to the animal world also, and in a certain lower form to the plant realm, and in a still lower—that is, a potential form—perhaps to other matter as well. In that case we must extend the conception of the spiritual, the conception of consciousness, to that which we usually understand as being below us. Nor is there any reason for rejecting the admission that soul-life is distributed throughout the universe, on all the heavenly bodies exhibiting conditions similar to those on the earth; that is, that life is possible, if, on the one hand, the temperature, and on the other hand the chemical substances are available which are necessary for life. The existence of higher intelligences on worlds of greater age, where organisms have had still longer time to develop, is entirely possible. Highly improbable, though theoretically possible, is the existence of the so-called star-giants.(61) All other psychic beings belong to the realm of fable.

The older standpoint which led men to animate everything, as well as the fantasy of beings with superhuman intelligence, has been surmounted. Of old it was thought: Man has the lowest, angels a higher, God the highest intelligence. Both kinds of superhuman beings, however, were figments of fancy, shaped after a human model, with a quantitatively higher intelligence. These infantile habits of the intellect have been proved false; on the other hand, we are experiencing—even if we do not dispute the potential existence of higher intelligences, and hold that it would be foolish to suppose that our earth could really bear the most intelligent population—a complete shrinkage of faith in higher intellects. We began with man and progressed upwards. To-day we cease with man. Empirically higher intelligences are unknown to us. Therefore

we see in the so-called lower organisms relatives and brethren of man.

The psychical is, above all, less *important* in the universe than it appears to be, and than we, with our really hominist estimate of values, believe. A few insignificant grains of dust, an infinitesimal proportion of the whole mass of the universe, float in the immeasurable void. Of this mass, mostly either glowing with heat or frozen, a diminutive portion may, quite by exception, as a passing phase in its history, afford a harbourage for life. For $10^9$ years—for example—our earth prepared itself for this task; perhaps after $5 \cdot 10^7$ years a primitive life was possible; but narrower limits are set for human existence. Perhaps it will exist for barely 10 million years. Then follow aeons of lifelessness for this planet. And not only in respect of time and space, but considered merely qualitatively, the "conscious," the "spiritual," is not what it was formerly believed to be. It lasts as long as human consciousness in man is fully developed; sleep interrupts it, conditions of fatigue and a whole series of other phenomena weaken it, a blow on the head—what an insignificant display of energy!—puts an end to it. Consciousness is obviously necessary for the conservation of the life of the great cell-states—which must surely be sporadically strewn throughout the whole universe—but it is very rare, and its effect is spatially, temporally, and qualitatively infinitesimal.

The momentary importance of the human mind on earth is an optical illusion. What a mayfly is the earth, and what a speck of dust is the Milky Way and the Einstein universe! A mouse vegetating in the Rue de la Paix might imagine that Paris was the whole world; and we are in much the same case, thanks to this optical illusion.

The psychical is an imperceptible glimmer of tiny sparks in the midst of an ocean of corpselike spatial and temporal inanimateness. The universe is not dead, but it actually possesses only a little physical and only a very little spiritual life.

## NOTES

59. To put this more clearly: Our world-view is incomplete and incorrect. Although there is a difference between the *dream* and the so-called *reality*, we should throw the compass overboard if we did not to some extent consider the "reality" accepted by us and our fellow-men as verified. For more on this point, see the explanation of the "in-itself."

60. To imagine the Absolute *only* as subject, only as psychical, is, if possible, more incorrect than to believe in a metaphysical materialism. As we must necessarily grasp space and time as unlimited, as in thought they go as far as $\infty$, so must we necessarily think of the Absolute as $\Sigma\,\infty$ of all $\infty$; also, *inter alia*, as the synthesis of categories S and O, therefore far more than pure O. The Upanishads, and in a certain sense Platonism also, fell into the error of conceiving the Absolute as pure S; whereas the second super-conception O, which as part of the synthesis also belonged to the Absolute, ought to have appeared to these thinkers as infinite, or at least immeasurably great. Flatly to deny its existence was an arbitrary choice, even if they set little value on it for other reasons. S has with thinkers in general a greater importance than the pitiful, despised O. The indistinct and indefinitely circumscribed psychical, subjective reality may, however, be far less the "Absolute" than O. O is subject to control, objective, common to all S. The conception S originates from the *ego*-feeling, and has arisen from an unphilosophical manner of observing the natural science world-picture, which must lead to pluralism. It is part of the epistemological irrationality that a philosophical world-picture, without control by the natural science world-picture, leads to the absurdity of solipsism. S stood in Europe, and also in Asia, higher in value than O. But this estimate of value arose from a lower hominist valuation; as though right should mean more than left, or the head more than the stomach. Since man valued the psychical as altogether higher than the physical, after surmounting the fetishistic stage he imagined his God as S, as a spirit (objectivized S); and as we are all affected by this conception through the influence of atavism, and also in early youth, many thinkers and non-thinkers still incline to imagine the Absolute—the glory of which they cannot mentally comprehend, and in which they see only an abstraction—as abstract S. It is a gross error to identify two things in this way simply because we believe that both are abstract. It is much as if one were to write the equation $6 = 4$ because $6 \times 0 = 0$ and $4 \times 0 = 0$.

61. The similarity between the structure of atoms and that of the stars must not be over-estimated.

## CHAPTER IX

## DEMATERIALIZATION AND DESUBSTANTIALIZATION

### 1. *Introduction*

In a previous chapter we spoke of the size of the universe, of its extent in space and time. Then we discussed the spiritual and its *decrescendo* in the macrocosm. Perhaps it may seem as though we spoke of realities 1, 2, and 4, and not of the third reality. For the content of the universe, the so-called matter, which was shown to be, under certain circumstances, the condition of the fourth reality—spiritual experience—we left, provisionally, unconsidered.

The word "matter" has in itself something of an evil sound. The materialists—greatly to be pitied—beginning with Lucretius and his older prototypes, down to Holbach, Büchner, Vogt, and Moleschott, have been assailed from all sides, both by ecclesiastical reactionaries and by their fellow-philosophers. To-day, since Kant and the critical philosophy, none of those thinkers who are to be taken seriously believe any longer in the metaphysical existence of matter. For this belief we are too sceptical and too critical. We know that the so-called "in-itself" of our sense-perceptions remains for ever a closed book, and that we must confine ourselves solely to the so-called appearances.

Hence, until now, there could be no question of matter—so far as it could be grasped in earlier chapters—otherwise than as a symbolical abbreviation. Still, we cannot permanently say: "We do not know it." We are, indeed, positivists and agnostics. But we recognize a certain difference: The universe is almost exclusively vacuum; but as we have shown above, some octillionth of the metagalactic world is not empty—there are suns and flecks of mist, planets, and comets. Perhaps they fill more than an octillionth, for we do not generally perceive the dead and dark worlds. And to this residuum, which is not empty, we must positively give some name. We

are accustomed, for the sake of brevity, to designate this "matter" as $x$. That there is no matter in the strict sense of the word, that from many sides attacks may be made on its existence, we shall see as we proceed farther. We know only that all is not empty, and that there is *something* which is different from the vacuum.

There are, as we shall see, four possible attacks. They will not, however, be made against matter in the narrower, physico-chemical sense, but against what men used to imagine as matter; that is, against a solid vehicle of qualities, activities, and changes. For this vehicle we have the designations "being," "substance" (which, of course, had already originated from the philosophical world-picture), and "thing," which expression—since Kant designated the pure object as thing-in-itself —was adopted from everyday speech as a scientific, technical term in philosophy. Hence the attacks will be directed against the whole category, not merely against these conceptions.

But before we treat of these four attacks, we must realize the fact that "matter" does not imply the complete filling up of the macrocosm. Matter is in motion; everything moves; it is hot, it shines, and oscillates. We come to the second $x$ in the preliminary stage of our knowledge—to energy. There are different forms of energy: the physicists speak of kinetic energy, light energy, heat energy; further, we distinguish between chemical, magnetic, electric, and physiological energy, and these by no means exhaust the series of its forms. Mauthner speaks metaphorically of a time-energy.

Matter, as we will call this $x$ in the meanwhile, is conceived in a constant state of transformation; it is constantly found elsewhere than where it was—it moves, changes, physically and chemically (wherefore every physical fact, according to the kinetic hypothesis, can be referred back to movement, and chemical transformation to changes in minute structure). We do not emerge from the regions of hypotheses, and are glad that we have found such as may be brought into harmony with reality and with one another. Apart from this, we know that no change in the world of appearance occurs without cause, i.e. if $A_2$ should occur a definite $A_1$ must be present;

that is, a series of conditions by which $A_1$ is set up. There is no effect without cause. Everything is effected through an unbroken chain of causes and effects; this is the so-called causal law. If we speak of a law this is, of course, a crude anthropomorphism, as we ought really to speak only in a negative sense of compelling necessity; something happens of which the contrary is inconceivable, and which must consequently appear to us impossible. Moreover, causality is definitely a sort of personification—that is, of the time-sequence —and, in spite of its immensity, is a hominism. I have sought, in another connection, to prepare the way for the thought that where we think we see a causal nexus identity is disclosed on deeper comprehension, just as for us mathematical axioms have passed into identity-judgments and tautologies. The powerful significance of the causal law lies, to a certain extent, not in the *upward* direction, where we see identity behind it, which from our human point of view we cannot fully penetrate, but in the *downward* direction, where the causal law took the place of the earlier arbitrary will of the older, crude, unsublimated, anthropomorphic world-views with their fetishes, idols, gods, and miracles. The causal *Weltanschauung* is not the last word of our knowledge, but is a great advance compared with the infantile view of older religions and occultisms. It is the duty of every scientific worker to adhere to this, and to defend it, even if we know that in time it will give place to a deeper insight; for just as we cannot share the conception of dogmatic materialism, yet we understand how very right its promulgators were in comparison with the protagonists of the older views. The universe as a whole is thus full of unknown quantities. We have here, on the natural science stage, the $x$ of matter, the $y$ of energy; on the philosophical stage the $z$ of causality.

There is no possible doubt that we shall have to introduce a simpler order. We think we know that matter and energy are one and the same. We shall see at length, if we imagine the abolition of the notion of substance, how this may be understood. We grasp the fact that causality is no more than an abstraction that has arisen in our mind, which refers back

to the observation that in the changes about us certain regularities persist: If $A_1$ then $A_2$, and not $A_2$ without $A_1$. Whether this regularity corresponds with something outside us, and what this is, we shall find out later. It may be said that the "regularity" lies in the negative fact that the contrary of what happens is impossible. This circumstance maintains, through a kind of optical illusion, a positive form, which we cannot recognize, for the reason that, as we have said, the apparent causality, on deeper comprehension, is referred back to identity.

Here I will only say, by way of indication, that in my opinion the cause of the hitherto human division of the universe as a whole into matter and energy is to be laid to the account of our intellect, with its psychologically explained categories, substance and change (activity), or, in grammatical terms, the noun and the verb. Because I do something, or something happens to me, I take it that everything is by analogy precisely similar, and hence it seems to me that everything is related to me as S to P, that everything appears as substantive and verb, that the noun expresses a greater anthropomorphism than the verb. This, as we shall see, is one of the reasons why we lose faith in matter.

If it were not for this intellect, which forces us to fit everything into these ready-made moulds, by means of an analogical judgment, we should not perceive this situation; just as it is, psychologically, perfectly explicable that the rise and existence of the category of causality forces us to recognize the causal nexus. Let us now proceed to the four attacks on matter, of which we have spoken, which may throw some light on energy and causality.

It is necessary to bear in mind that the subject of the attacks is not matter alone. The subject of the attacks is far more extensive: it is the "thing," so far as we mean by this word the antithesis of quality or activity. It is the category of *substance.* In a naïve stage of human development the words *matter, thing, substance* are synonymous. The second is, in particular, a term of everyday speech; the other two are book-words. The attacks will be directed against the category of substance; hence, against everything which is contained in it. We can

of course go farther. The book-words may evaporate into epistemological symbols. What is in question is the cause of the content of consciousness (taken over from the realistic philosophy) which is to be sought outside the sphere of consciousness. It is a question of the letter "O," which is employed as a symbol for the universe existing outside our *ego*, i.e. for the existence of this universe. Further arguments will have to show whether simultaneously with dematerialization and desubstantialization even this symbol, and with it everything which can be really outside my *ego*, will have to vanish into the abyss of scepticism.

In the first attack, where trains of thought move in the sphere of the natural science world-picture, it will be shown that in this sphere the category of substance enters as opposed to matter. In the second attack, in the philosophical sphere, a wider conception, that of substance itself, will be treated. The third attack, which is likewise philosophical, will turn on the difference between appearance and the "thing-in-itself." In the fourth attack, the originally so robust matter being attenuated to an epistemological symbol, the so-called O-philosophy has to defend its standpoint against the attacks from the camp of the idealists.

2. *The first attack*

The first of these attacks proceeds from the so-called minute structure of stuff. This, as we know, is not divisible to infinity, and is built up of molecules. The above-cited "Lodschmidt number" gives the number of molecules in a cubic centimetre of gas in trillions,(62) and still the molecule is not the final unit; there are large and small molecules, and these are composed of a larger or smaller number of atoms. The molecule of water has, for example, three atoms, two of hydrogen and one of oxygen; there are, however, organic combinations whose molecules contain thousands of atoms. Of course, only thousands, not perhaps trillions; the difference between atom and molecule, in respect of quantity, is therefore insignificant. The atoms, however, appear again as minute solar systems: they consist of a positively charged electric

nucleus, which we call a proton, and further of some concentric orbits (K, L, M) of electrons, extremely minute charges of negative electricity, which revolve round the nucleus as planets round the sun.

One must envisage the matter as follows: The electron or proton is not a something charged with electricity, but electricity in itself, although in insignificant quantities. There is no matter *and* energy; that is, no energy to which we subordinate electricity—but only electricity, only energy. In another chapter we saw that here on earth, in relatively cool surroundings, of which the temperature approached the absolute zero point, matter appeared in this form. In the glowing suns, where a greater mass of matter is concentrated, the individual electrons are separated from their protons and move independently hither and thither. The main fact, however, remains that there is in reality *only* energy, which is concentrated in a definite form. We have recently come to know that there are also stars in which energy is far more concentrated than with us. Just as there are glowing stars of extraordinarily small density, in which the atoms are ionized, so, on the other hand, we know that there are very dense stars in which *all* the atoms are stripped of their electron-orbits and the protons are packed very closely. The density of such stars (Sirius B and the van Maanen star) is so great that on the earth 1 $cm^3$ of their stuff would weigh from 50 to 140 tons.

The recognition that matter is electricity is so novel (63) that there are many problems still to be investigated. How is it to be brought into harmony with the fact that there are more than ninety elements, of which the majority cannot be transmuted one into another? The science of the future must show us how it happens that this enormous multiplicity prevails in the world which, perceived through our senses, presents us with the beautiful picture of living nature, while all this is, in reality, only a dull, grey uniformity of positive and negative electricity. Physiology and biology too will have to accommodate themselves to this new doctrine. It cannot be denied that a certain unpreparedness characterizes all our knowledge; but it must not be forgotten how relatively young

is the whole of science, and above all natural science. It is certain, however, that the triumphs of science hitherto warrant the conjecture that in time many things will be comprehensible, the possibility of whose explanation has hitherto seemed doubtful: at all events, within the sensualistic, empirical world-picture, which alone is in a position to lead us to a better understanding of the cosmos—at least, in a manner acceptable to the human intellect.

For us, matter has been transformed into electricity; we have replaced the *x* by the *y* of energy; but the simplification amounts to no more than this, that instead of two principles we have only one before us.

3. *The second attack*

This is of a philosophical nature. We all possess a definite *ego*-feeling, which is primary, and by means of which we find our way about the world. We feel ourselves as a central point, as the bearer of qualities and accomplisher of deeds, as something through which or upon which something is performed. In a similar manner, as we feel our *ego*, as we feel that "we are," as we are conscious that we act, that we do something, that something happens to us, we imagine that everything else in the world proceeds in just the same way. So long as we have in mind only our fellow-men, our kindred organisms,(64) this is right, or almost right, as we see from our former experience, which justifies us in our imaginations. We are, however, entirely wrong if we regard this as being of the greatest possible individual consequence to ourselves, and think frivolously of everything else—inanimate, concrete, and abstract. In actual fact we have construed everything after our own inner likeness; we have turned causes, power, stuff, God, the universe, into things.

We think of these also as corresponding with our *ego*, as subjects, as bearers of qualities and accomplishers of deeds, as "things"; most of them as soul, since the *ego* is soul, but always as *substance*. If we state of them that they *are*, this is an expression of this human, anthropomorphic instinct. "To be" means "to be substance." We have for substance

our word "being." We include all this in the category of substantiality; we call the words which we have in our language for these "things," *substantives*.

I think it is the greatest modern achievement of the criticism of knowledge—to be precise, of Mauthner's criticism—that it has dethroned being. The old conception "substance," the conception "to be," as the most extensive of conceptions and emptiest of content, is a spurious conception, a product of our instinct to imagine everything as analogous to the *ego*. There is no being, there is no "to be." We have an enormous number of substantives—for ourselves, for our work, for men. They exist for our human operations in our human minds. We need them as auxiliary conceptions, as bearers of qualities and activities. What is sugar without its qualities? If we think of them all as absent, nothing remains. We must think more in adjectives and verbs. These have reality, if we may say so. We have made for ourselves, to a certain extent, a monadological world-picture: we speak of a piece of bread, a jug, an inkstand, a sheet of paper—and then again, a paper bag, a grain of sand; or again, a whole sandy desert of grains, according to our need and attention; but all are latent or potential monads (coat-racks, according to the metaphor of the Upanishads, upon which we hang the quality-and activity-coats).

Let us then bear this in mind: as there are no Platonic ideas, and no universals, neither is there substance, nor are there "monads." At least, not in the sense in which they were formerly conceived; as Leibniz, for example, or (in another form) Herbart understood them. It is generally extremely dangerous to trouble ourselves overmuch about the little words "to be," which in an instant may become a "metaphysical to be," an *in-itself*, and in the next instant are only an innocent copula.

I emphasize the fact that "to be"—as a gigantic verb, simply exciting astonishment, as the negation of all change, and hence, especially, of all other verbs, at once negative and positive—a god in the realm of verbs—is an auxiliary conception, and only formally a verb, for in reality it represents the noun of all nouns. It can be used in this special manner

only in a single proposition: *God is*. This means, in other words: God is *the* substance. Hence theology, religion, and scholastic pseudo-science need substance and the *verbum existentiae*. For this reason were the nominalists and critics persecuted; for this reason were the modern theorists of knowledge persecuted. Nevertheless, in this proposition the subject is the king all of spurious concepts; the assertion is a spurious concept (is = is substance); although, to complete the confusion, the little words "to be" are often employed in speech without being a spurious concept.

This dull, negative *ego*-sentiment, in later ages more and more perfected by cultural life, this sentiment that has a beginning and an end, is interrupted by sleep and syncope, altered by hunger, pain, alcohol, and the most varied physiological phenomena, seemed to us men, on account of its centrality, as such a *rocher de bronze* that for this very reason we have abstracted from it the metaphysical conception "to be." "To be" is more extensive than "to live;" "it is" is true also of that which does not live, which "is" dead. "To be" is the abstraction of all activity and change; "to be" means to last, to be a line in the time-sphere, in which the subject is a point. As with the straight line, so "to be" has the tendency to run to infinity; an end is unimaginable, so it is therefore eternal. A soberly formulated, temporarily imagined straight line, simplified by abstraction; on the other hand, conceived by abstraction together with all temporary changes, and time itself, and yet again timeless: such is "to be," an empty word-husk, of which the whole content is fabricated by abstraction.

The authors of the Eleatics and the Upanishads, and after them many others, did not believe in the experience which the senses communicate to us; hence they did not believe in change, rise, and fall. They abstracted the naked "to be." In what this "to be" differed specially from inanimateness is an open question. An unchangeable duration without change means for us to-day no life. The intermundane empty spaces, lasting centillions of years, with their almost eternal death, and their empty inanimateness, are the image of such an abstract "to be." Formerly men did not think so far. They explained

their soul-life, their consciousness, which we cannot think of without interruption—this most complicated, most variable thing—as something simple and without change: and to this "to be" was transferred from somewhere below the representation of human consciousness; to the entirely unempirical a series of qualities—permanence, invariability, etc.—was ascribed; qualities which it does not possess, never possessed, and can never possess. It is interesting that all these are negative qualities.

It was much the same with God and "to be." Indeed, it was just the same, for I repeat: is = is substance. In a similar fashion the soul was made—that is, God in miniature—obviously with unlimited duration only in the future. (But the representation of the soul was, on the other hand, the project for the structure of the conception of God. This proceeding is genetically the more correct, although in practice the contrary process may be observed, the conceptions mutually influencing each other.) And now man possessed this soul, and appeared to himself as a substantive, as something durable, as a "thing," as substance, as a bearer of qualities and activities.

Against this, however, we must maintain that neither we men, nor animals, nor our *ego* persist, for there are no substantives, no substances, but only our inner power of remembrance, our thought, the *ego*-feeling, the verb. Our life, our "soul," is a verb, not a substantive.

The difference between us and the inanimate is this: we *feel* ourselves, at least as noun and as substance; the *ego*-feeling is an *illusion*; man *wants* to be *substance*, wants to be *a being* (*einai*) which can be prolonged into infinity of time, as every existence and every "being" would have to be if in truth it existed; but the inanimate has not even this illusion. We only ascribe to it something of the kind, and form, on the basis of this false analogy, conceptions which have really no other purpose than to help us over the apparently inharmonious and unordered in our world-experience. Later we imagine that we have a metaphysical monad, whereas we ourselves have merely erected a necessary concept-architecture to serve our need of orientation.

I repeat: the substantives—that is, the verbal expressions for the substance belief—are each and all, from a *higher* standpoint, an epistemological impossibility; from a *lower* standpoint they are partly justified in the individual consciousness-units, since they render possible, as an actually existing, instinctive, biologically necessary illusion, the life of the cell-states; from the *hominstic* point of our frog-perspective we feel that we must paint ourselves a substantive—i.e. an anthropomorphic—world-picture, so that there may be bearers of qualities and accomplishers of deeds. This picture is false; even if we cannot escape from it on "working days," at least on "Sundays" we should tell ourselves that it is false, so that we may be convinced of its incorrectness. There are only qualities and changes. Substance is an instinctive illusion of the living, but in respect of the inanimate an unjustified anthropomorphism (theromorphism).

It is also an egoistic anthropocentrism to desire to overrate the "spiritual," the "consciousness," etc., at the expense of the inanimate and empty spaces. This is humanly comprehensible, but in a higher, non-hominstic philosophy, which would undertake to adventure in the direction of the (unattainable) objective truth, it is certainly out of place. The spiritual as a verb is, of course, real, and our life is indeed no dream. But with substance there can be no compromise. All coquetting with it is merely a *labor improbus philosophorum*, even though it may be deeply grounded in the human instincts. Because this is a human instinct, it is not therefore right, and it is not right; that is, biologically, in small things, in individuals, it has its justification; it is quite justifiable to think and behave "as if" we were substance, to seek orientation on the basis of the old, foolish, and unverified fiction, as if pure substances and monads existed all around us. But even though we live in the twentieth century, and at the same time are half Neanderthal men, yet we have already made the discovery that we, viewed objectively, are chasing phantoms, the origin of which we can psychologically explain, and in which therefore we should see no more than fictions and spurious concepts.

According to this, matter, as we have seen, is only energy

and not substance; it is only to a certain extent, a force; it is also only a kind of "verb." At this point we must say a few words as to the difference between the concepts "matter" and "substance," lest we fall into error through some confusion of them.

The conception of "substance" is far more extensive than that of stuff. All that we feel as "thing," as some kind of strange *ego*, belongs to this category: God, the soul, and countless *abstracta*. Psychologically, the conception of matter —that is, of stuff (*materia*, *hyle*)—is older, and arose sensualistically through sight and taste; the property of matter is extension; it possesses space and impenetrability, as distinguished from empty space, which does not touch our senses. The conception of existence is of speculative origin, and does not belong to science, but rather to classical philosophy, and especially to theology. As children we learned this sort of thing: angels are pure spirits . . . they possess no body (they are not matter but substance). How did this conception arise? Through abstraction. Man knew himself as "body and soul," and possessed an outer and inner experience. In accordance with his outer experience he made himself animals, plants, houses, stones, and stars, but in accordance with his inner experience "spirits." But both categories possessed a common mass and a common aspect; man thought in particular that they had an *ego*-feeling. Hence he formed for them a higher, inclusive, super-ordered conception of "existence."

An existence is thus that which can express itself as "I"—that is, it is imagined as if it *could* express itself as "I." In this, man committed another error, since in his ignorance of the causal connection between the spiritual and nervous systems he imagined spirits without bodies. Men drew countless false conclusions of this kind, since, above all, they judged rashly, and drew inferences, through insufficient experience, from false premisses.

Substance is a philosophical conception, and matter a conception of natural science, but with this recognition little is accomplished; at all events, for the history of the problem. To begin with, the question of a proper discrimination between

the conceptions of philosophy and natural science arose after Kant—that is, about one hundred and fifty years ago; but in the age of naïve realism, when the substance-conception sprang up and flourished, this conception passed as belonging to "natural science" (from about 350 B.C. to A.D. 1781).

Substance lay for most thinkers (Plato and the Neoplatonists are exceptions) not in the transcendent, but in the world of our sense, in the sole existing world for the age which conceived God and the soul naïvely, realistically, even materialistically. On the other hand, matter is often a philosophical conception. There were, however, and perhaps still are, metaphysical materialists, who, certainly in error, conceived, and do still conceive, matter as absolute. Substance was for many centuries only an abstract, but matter a concrete "thing." The origin of matter is of an empirical, and that of substance of a speculative nature, but men were aware of this only in the rarest instances. And this need not surprise us.

There are still to-day Australian blackfellows who are not aware of the parental relation of father to child; they do not know that the sexual act stands in causal connection with the child that is born. There were times when man in Europe knew nothing of the close relation between the spiritual and the corporeal; the soul was conceived as an *independent* existence, as a kind of double of man. (The Egyptian *Ka*, the Greek *psyche* was in the original sense of the word something immaterial, apparently quite similar to the real body, an *eidolon*). Actually we are even to-day in a state of confusion concerning many relations of the corporeal to the spiritual, and have only very gradually progressed from where our fathers stood two thousand years ago, and where the Australian blackfellows stand to-day. No one can be blamed for this; but our religions arose on such an assumption, and all that was related concerning spirit, soul, angel, God, and the evil spirit himself, was founded on this basis of ignorance. But it cannot be repeated often enough: it is not only the belief in spirits that is erroneous; belief in *substance* also is erroneous, belief in "being," which always means "being substance;" belief in metaphysical existence, and above all belief in the meta-

physical existence of our old, faultily-constructed, spurious concepts.

Substance is everything of which I can think that it can say "I," that it can have an *ego*-feeling, as if it were a subject and had a metaphysical existence.

If this should not be clear enough to the reader: consider that until Kant's time everything that "was" had likewise a metaphysical existence, was absolute and in-itself. Now we know that everything exists for us only in relation to ourselves, that everything is only our perception and imagination. We have a feeling that objects are still *something* besides their relation to us, and the subjects of our perceptions. The question as to what this something really is will soon be examined, but it certainly cannot be answered, and is wrongly put. "In-itself," which should apparently provide an answer, is a negative conception—one which does not stand in relation to us—and its alleged positive content lies outside what can be known.

To seek to ascribe a metaphysical existence to anything to-day, after we have accepted the doctrines of Kant and Mauthner, would mean a completely un-pertinent and unprovable epistemological *plus*. And "substance" must possess this existence (for in so far as it was believed in, it was thought of metaphysically), otherwise it would no longer be substance.

Hence our definition of the spurious conception "substance" characterizes its necessary "in-itself," and its potential possibility, as *ego*, *ego*-feeling, and subject for being. It does not follow from this that we were unable to believe in a dead substance (I prefer to speak in the past tense). Every conception corresponding to a noun is thought of as if it were "I," as if it were a bearer of qualities and an accomplisher or subject of activity. "Substance," for the critical philosophy of to-day, is entirely extinct. Only theology makes any further use of it. "Christ possesses a divine and human form. Christ is present in the bread and wine from the moment when consecration takes place, for the substance of bread and wine are transformed into the substance of the body and blood of Christ, even if they do not change their external qualities" (taste, colour, etc.). This is the real doctrine of substance, which I

pass over without comment. Since we have an old language, which arose in a terribly childish age, we trail along with us the *substantiva*, which are constructed as if there were a "substance." For a long time we have known perfectly well that our language does not coincide with the reality. It did once so coincide (with the reality of the time when it was formed). Consequently—the Latin "luna," the German "die Sonne," the French "la fin" are of the feminine gender, while the Latin "Sol, finis," and the German "der Mond" are masculine. But the errors in the designations of gender are petty ones, whereas the error of "substantialization" is a gross one.

Our world-picture, as laid down in our language, is not "correct," is hominstic. This we know. We also know that the world-picture which we possess to-day does not harmonize with *this* world-picture, but is more critical, hence more remote from falsehood, hence a better picture. In the future it will be better still. Perhaps there are intellects which possess a still better world-picture. But an entirely "correct" world-picture there can never be.

Our limited, biologically-formed intellects—we are not in a position to imagine others—cannot press forward beyond a certain boundary, which appears to be assigned to every intellect.

All that remains is veiled in the immeasurable, the realm of the unknowable, whose depths are really empty. The potential recognizability of a phenomenon depends as much on S as on O; if an O were really recognizable, but only in such a situation that an S could never attain it, what difference would there be between the potential recognizability, which cannot actually be realized, since only one of its preconditions is given, and nothingness? For this reason I pause at the comparison already employed in earlier explanations—that the unknowable, for an advanced intellect, lies on the brink of a perceptible greyness, which passes at once into utter blackness.

And now to return to matter: The content of this concept is much more restricted than that of the concept of substance. Above all, only that substance is matter which possesses

*extension*. Further, the *ego* quality is potential in such a small degree that it shrinks to a mere metaphor; man forms the concept of matter, in so far as it is substance, by analogy with his personal *ego*; psychologically it is of like origin with the superior concept of substance, but man has dethroned it again, even though he had formed it in correspondence with his *ego*. Matter is an extended substance, and by extension its O is emphasized; its potential S is not consciously taken into account; hence the antithesis: spirit and matter. To matter is ascribed an *ego* only in sublimated form, in so far as this is based on the grammatical substantive—but one must of course distinguish between animate and inanimate matter. O can be animate or inanimate. S can be inanimate only fictively in grammar. The category of the inanimate is therefore *young*: the initial animism, out of which substantivism has been sublimated, knew nothing of it. Hence, following a circuitous route, the concept of matter had its origin through the *ego*-feeling and the concept of substance, and to-day it has no longer any particular *ego*-feeling. Duns Scotus and Plotinus were of the opinion that "matter," in a certain sense the realest thing, possessed no substance: they spoke of its *privatio*, and it seemed to them to be *maya*. Of course, in consequence of the perversity of the human intellect, their most subjective intellectual phantasies possessed the most real, most "metaphysical" existence; they were *ontos on*.

Matter is a far more useful concept than substance. Hence even materialism is serviceable, but by no means substantialism, which can only be tolerated, for economical reasons, as a conscious inaccuracy of language. It is like a dingy, battered box, with pigeon-holes in which we keep our self-understood spiritual property—since we possess nothing better; but which, apart from offering us a certain possibility of order, is merely harmful, since it leads us astray into wrong intellectual tracks.

Materialism, which, strangely enough, is so frequently opposed and despised, is a wholly useful and serviceable fiction. Our sense of touch leads us all—thinkers and non-thinkers alike—to believe in bodies, and the rest of our senses,

especially the sense of sight, confirm us in this belief. On the basis of deeper reflection we come to understand:

1. That so-called matter has no substantial basis;
2. That there is no substance;
3. That there is nevertheless something which in our intellect, our S, must needs evoke the hypothesis of corporeality, which nowadays we have already recognized as fiction.

Thus there is no matter, any more than there is substance; but these two untruths are not untruths of equal rank. Substance is an untruth which arose exclusively through speculation; matter is an untruth which came into existence through the activity of the senses and speculation. Objective truth is an illusory, limit-conception, the asymptote of a hyperbola; we distinguish different degrees of truth. The truth of naïve realism believes in the primary sense-impression; it is a truth in which matter and energy, *psyche* and *physis* find their proper places. But even here we have two kinds of experience, which cannot properly be united.

The deeper truth—corresponding to the philosophical world-picture—shows me the *psyche* as a function of matter and matter as a conception of the *psyche*. Through speculation I recognize that the dualism of $x$, matter, and $y$, force, changes into the monism of $z$, energy; this result of the *physis* changes through a wider synthesis into $u$, which appears to us, according to our standpoint, now spiritual, now physical.

But to this stage of truth only a few of us attain, and then only for a short time, and in speculation: on "Sunday." On "working days" we live in a humbler sphere. Presently we shall give a hearing to the third attack upon matter, and with this we shall press forward into a still higher sphere of truth. But in this the lower spheres of truth still continue to "exist" —of course, with the reservation that the acceptance of their existence is only relatively justified, as a result of our preliminary sense-activity, uncorrected by scientific experience and speculation, or only slightly corrected. The consideration that matter is energy had empirical bases, and was not as yet a matter of critical knowledge; epistemology opens out wider views: that the belief in substance is an anthropomorphism,

that our knowledge of the universe is only knowledge of appearances; but *all* these stages are true in a certain, though of course a limited sense.

Here we may fittingly devote further attention to this important question.

Analogous to the world-pictures which were discussed in the third chapter, there emerge:

I. (1) The truth on the basis of sensory experience, and this:

(*a*) Without the aid of instruments which render our senses more acute,

(*b*) with such aid (telescope, microscope, photographic plate).

To (*a*) belong such observations as: gold is heavy, the fish swims; to (*b*) astronomical and microscopical observations; of course, only as mere established data:

(2) The truth attained through criticism of our sense-perceptions, in so far as this criticism is carried out in accordance with the methods of natural science. (Experiments in the wider sense, which are applied through considerations not of an epistemological nature). For example: atoms are built up of protons and electrons; matter is energy.

II. The truth attained on the basis of an epistemological criticism, which is accepted in preference to the preceding truth. Our haphazard senses do not show us everything; our intellect, which arose fortuitously, anthropomorphizes. Our knowledge is no "knowledge in itself." This is and remains, for us, and indeed for any intellect, for ever hidden. Substance is only an illusory concept—something which is not and never has been. Only the conservatism of human language has retained the word "substance"; in respect of this concept men have not been sufficiently nominalistic. This kind of truth is always only negative, destructive, tautological. There are no synthetic judgments *a priori*. Where it appears as though something from this sphere has a positive form, this is due only to a defect of language, which often expresses itself, grammatically, in a positive sense, whereas the proposition is logically negative.

III. The fictive "super-hominstic" truth is the sphere to which we shall never attain, and from which we are excluded on principle: human truth is a hominism; all so-called knowledge, evidently, and all knowledge of the *thing-in-itself* is fictive; knowledge of the Ultimate (to be found at the poles of the Mercator projection) is impossible.(65)

On the basis of these considerations we see that in the first section of the first world-picture (sensualistic, naïvely realistic), matter and materialism appear as truth; in the second section of the first and in the second world-picture they are a hypothesis; in the third world-picture, they are fictions. They are such economical fictions that in practice, biologically speaking, we can hardly dispense with them, even though we are obliged to recognize their fictive character. But is there not something fictive in all deeper knowledge?

On the other hand, substantialism may introduce a positive speculation of infinite metaphysical importance into the higher spheres of truth. It makes no empirical assumptions; it introduces the positive into metaphysics, and does not recognize the fictive character of an impossible "absolute truth." Consequently one can make no terms with it. It is a pity that many assail materialism, which is at heart a mere harmless infant, which some may find a little troublesome at times, but from which one can be protected, while they do not trouble their heads about substantialism, that monstrous fire-breathing chimaera.

4. *The third attack*

The reader can guess, without unduly racking his brains, that this third attack must be Kant's doctrine of the phenomenality of our perception: We cannot attain to the "thing-in-itself;" we perceive only appearances. I introduce this attack in the third place, because it is much more radical than the two preceding attacks. The minute structure of matter showed us that stuff is really energy; our considerations regarding the activity of our intellect showed us that it is no "thing," no substance. But we now see that our perception gives us only an inkling of how the surrounding world appears; it tells us

what everything seems to be, but not what it is. I have ranked this attack in the third place on account of its acuteness and universality, although it is the oldest of them all. It is one hundred and fifty-five years since Kant's *Critique of Pure Reason* appeared.

Above all, we must ask ourselves: If there is no "thing" and no category of substance, what then becomes of the "thing-in-itself?" If there is no "thing" in the world of sensualism, then so much the less can there be any "thing" in a world of such a hypothetical kind as that to which speculation leads us without the help of experience. This is so, of course; and it was certainly proper to speak of the attack on substance before we passed on to the attack on human knowledge itself.

We will not, however, be hasty in drawing conclusions. The realm of the "in-itself" is so negative that, strangely enough, it becomes entirely void of meaning directly we dispossess it of the category of substance. We know nothing about it; and what is more, we do not even know whether it is rightly postulated in the form in which we speak of it. It is important for us that in the sensualistic world-picture, in which there is so much that is positive, the illusory concept of substance should not persist. Since we have eliminated it from the sensualistic world, we naturally shall not maintain that it belongs to the "in-itself," or occurs therein; just as we do not believe in Pegasus or the griffin, and do not transpose them into the sphere of pure perception. But if we declare that of this sphere we can say nothing whatever, we have completely disposed of this view. We shall certainly not be tempted to look for substance in the "in-itself," since we have excluded it from a *lower* world-picture. If we say "thing-in-itself," this is a verbal fossil surviving from the time when men believed in the "thing," just as when I say "the sun rises" I am making a statement which originated in pre-Copernican times. There are many such words and propositions.

Hence matter is not directly attacked by Kant's assault upon human knowledge. Matter formed the smallest circle and stood in the middle point of the first attack; substance, the

larger circle round the smaller circle of matter, was the object of the second attack; it is now launched against knowledge, the largest circle round the two former. But for all that, the innermost circle will still be challenged if the larger circle is challenged of which the inner forms a part. Thus it has seemed methodically correct to consider these three destructive phenomena in succession.

Undoubtedly Kant's achievement is a stupendous one, which represents a new epoch in human thought. It means the end of dogmatic materialism, the end of dogmatic spiritualism, etc., the end of all positive metaphysics, and the beginning of the more modest epistemology Yet it by no means follows that all branches of philosophy must see in Kant such a mighty dividing wall as they must encounter in any attempt at a non-hominist philosophy. In particular, those disciples which must remain to a certain extent "on the surface" are in no way bound to Kant's conclusions. The author who proposes to write an essay on aesthetics, or to expound a doctrine of value, or to treat of ethics in the narrow sense of the term, strictly speaking has no need of Kant. To-day I believe that a philosophy which is only practical, which keeps *only* to the surface of things, can dispense with Kant. Formerly, of course, I thought that even a philosophy of this kind was impossible without Kant. However, such gigantic aspects as are expounded in this book would be wholly impossible without reference to Kant's works.

Our sort of world-knowledge, one kind among many, offers us merely appearances. To "true," i.e. absolute knowledge, no one can attain. This fact, of course, is realized, and has been often repeated. Nevertheless, could we not at least point out the way to be followed, and the direction in which the unknowable "in-itself" lies? This would be like trying to catch the moon with a butterfly-net. One may say that a non-hominist philosophy is not really an attempt in some way to reach the unattainable "in-itself;" for since it is possible to regard the world from a higher than the human standpoint, a reason superior to our intellect is at least not unthinkable,(66) whereas any intellectual grasp at a postulated limit-conception

concealed from every intellect must appear wholly impossible. Thought cannot go beyond its own sphere.

From this it is evident that the way of which we spoke must lose itself in the negative, even if we were able to climb to a higher than a human watch-tower. We should still have to deal with a question to which the answer should save us from the necessity of a dangerous judgment of value: is the "in-itself" in some way a better, more worthy knowledge, and would it, assuming its possibility, represent an advantage as compared with the knowledge of the world of appearances? Was Plato right, in his *Politeia* (514 et seq.), with the comparison of the grotto? The question as to the "way" might perhaps assume some such form. To this question, which seems to me like a reckoning with imaginary values, we may at once reply *in the negative*. We must remind ourselves, again and again, that no intellect can know the "in-itself"; and hence we are not justified in making *any* positive statement concerning the "in-itself."(67)

If we would consider more narrowly the question of the higher value of the "in-itself" as against the simple world of appearance, we must proceed somewhat as follows:

Let us for the moment imagine the fiction that the "in-itself" stands at the middle point, like the sun. Around this sun are ranked, like planets, the different animal and human intellects. And not only the known, but also the purely hypothetical intellects of other star-systems, the intellects of the microscopic amoebae and the star-giants. Each observer perceives the surroundings in his own way. The perception can always be expressed by a sort of algebraic addition. E.g. for men, $x + a_1$; $x + a_2$; . . . for alien intellects $x + b_1, x + b_2$; for completely alien intellects $x + 4d^2$ or $x + np^m$. In each expression there is an $x$ which for us, of course, signifies only a possibly conceivable pure object, and further, a certain colouring specially conditioned by the perceiving subject, which must be expressed by the second sum of the addition. One sees through a green glass, a second through a yellow, a third by means of a microscope, a fourth uses a strange kind of instrument unknown to us other intellects. For a blind person

the second term of the sum would be theoretically $-x$, since he sees absolutely *nothing*.(68)

No one perceives the simple $x$. There is always something associated with it; viz. the subjective character of the intellect. Hence we must not imagine the unknown magnitude $x$ as some kind of radiant sun. For no subject can ever see it. It is at best a possibly conceivable existent sun, only, of course, it is eternally below the horizon. Finally, from a certain standpoint the appearance can be something "more." From the standpoint of the postulate of a pure O we called this subjective summation a cloudiness. Whether it is really a cloudiness is an unsolved question. By a cloudiness one understands usually nothing more than that from a certain point of view one cannot see an image quite clearly, i.e. not so well as one might. Cloudiness is therefore a negative value. In the higher world of knowledge there can be no attempts at valuation.

We have already drawn attention elsewhere to the fact that we possess only five fortuitous senses, just as Laura Bridgeman possessed three. The conceivably possible kinds of perception run, of course, into thousands.

But now let us look at the matter in a different light: the total of potential perceptions, the total of thinkable perceptions, which means much the same, since I used the word "thinkable" in the sense of "conceivably possible," is of course much greater than our *human* perception with its limited possibilities. Let us recall our comparison of the dark cube with its two lighted facets. The schema of our perception would not be $x + a$, but rather $x + p - m$, in which $p$ and $m$ would be very large numbers, which would give the figure of possible errors ($p$) less the errors not made ($m$). Within this sphere —we are now in the sensualistic world-picture—considerations and conjectures are possible. We are actually, of course, in the not yet investigated part of the world-picture, which in the course of time, as science advances, will be completed.

But the problem indicated above will always remain in the negative. The most that we can say is that the "thing-in-itself" is not a radiant sun; it is only a final conception, never accessible to knowledge, and so here too the attempt to find a way

leading to the "in-itself" is a failure; unless indeed we count it a success that the legend of the "sun" has vanished into nothingness. On the other hand, the assertion of the fortuitous character of our senses is the corner-stone of our criticism of knowledge (compare Mauthner, *Sprachkritik*, vol. i, p. 353, and vol. iii, pp. 451, 638).

That our senses do not communicate everything by a very long way—that, for example, we possess no organ for the ultra-violet or infra-red rays, that we have no electric or magnetic sense—is recognized. On this subject a great deal might be said. It is strikingly apparent, for example, when we listen to "the wireless," for then we translate electric waves into acoustic, having, so to speak, to outwit nature before we can perceive them. We cannot possibly assume that any intellect perceives in such a way that its mode of perception can be represented by the algebraic expression $x + o$, i.e. pure O, without any subjective additions. And would this kind of perception be *perfect*? Perfection is of course in this connection a foolish, human word.(69) Who can measure it and pass judgment upon it? A more perfect intellect than the perfect? Our conception $x + o$ confronts us, apparently, with insuperable intellectual difficulties. It is evidently only a limit and auxiliary conception. We lack the senses for an "ideal" perception, and for this reason the senses and the intellect offer us much which, strictly speaking, is "beside the point;" at least, from the standpoint of that possibly conceivable but unimaginable super-intellect.

We cannot enumerate the senses which we do not possess. Only by chance can we convince ourselves that here and there things exist which we cannot perceive. Our senses alter so many things and perceive so many things imperfectly. The dog does not see the starry heavens, and there are many things which we do not see, and, above all, many things which we do not smell and taste. Of course, we cannot say how far this leads us into "error."(70) If we could, perhaps we should not fall into error, or should at all events be less mistaken.

What do we mean when we say that we "err?" This is

again a foolish image, borrowed from our petty everyday experience, which ought not to be employed in the lofty spheres of epistemology. Every hypothetical intellect errs as we do; one more, another less. Not to err would be the immediate perception of the pure object. But it has already been stated that the pure object cannot be perceived by any intellect. The thought that anyone can nevertheless "see correctly," and that others should be judged accordingly as they approach or recede from his perception, is a notion of a hominist character. For the time being we all stand more or less in a circle; no one stands in the focus. Even the focus is a human notion, a human image, an auxiliary conception. Here again the term "limit-conception" is appropriate.

We mentioned (note 67) that certain eminent thinkers have wrongly imported positive elements into the sphere of the "in-itself," and that we are strongly opposed to such introductions. These elements were the completely sublimated anthropomorphisms which arose, psychologically, from observation of the individual *ego* and its components, and likewise from its extraversion. We have recognized "substance" also to be a sublimated anthropomorphism, and have excluded it from the sphere of the "in-itself" on the ground of the hypothesis indicated at the beginning of this section.

The consistent observance of the principle that absolutely nothing positive must be introduced into the sphere of the "in-itself" leads us, however, if from our present standpoint we wish to deal critically with the problem of *time* and *space*, into a serious dilemma. Are time and space "in-themselves," or, as Kant would say, only intuition-forms of our intellect? Do they belong entirely to the sphere of the "in-itself," or should they be excluded from it? Is there no objective time? Is the "in-itself" timeless and spaceless? Or must we adopt the time-affirming *Weltanschauung*?

We must give some attention to these fundamental questions. We shall not, of course, solve the problem, which is insoluble for our intellect. We shall merely attempt to regard it critically and relate it correctly to our world-pictures.

To begin with, I would seek to dismiss the "free will" of

Kant as unfounded, to reduce time and space to intuition-forms, and banish them from the realm of the "in-itself"; while, on the other hand, the counterparts of other appearances must remain in the sphere of the "in-itself." Let us compare, for example, the much more hominis tically-coloured categorical imperative, to say nothing of the "in-itself" of the substance-concept. This free will, dealing as it does with time and space, has, at least in my judgment, something *positive* about it, and has always seemed to me untenable. Our O-philosophy is, on principle, empirico-critically orientated; it seeks to take its departure from the world of perception, and to subject this to an epistemological criticism. For this reason we cannot assume, in the face of the space-and-time concept, an attitude of such flat rejection as the S-philosophy, with its primary experience, its "mere" content of consciousness, and its solipsistic methods. The S-philosophers perhaps can speak of the timeless present; they can even venture to seek and find the Absolute in the only real, timeless, primary experience; in their present-solipsism they can exclude from every sphere of reality practically everything which, outside the consciousness, would produce the content of consciousness.

We dare not proceed so radically. We dare not, by the surrender of the whole O-sphere, transfer the absolute blackness of which our metaphysical world-picture is full into our epistemological world-picture.

However, this fundamental O-rejection does not always lead to absolute agnosticism in respect of the higher world-pictures. Few S-philosophers were in a position to proceed so critically; the majority were unable to do so. I am thinking mainly of the metaphysics of Deussen (*Elemente der Metaphysik*, 3rd edition, Leipzig, 1902, pp. 266 et seq.). But he is not the only philosopher in this position. The scheme which is usually followed is this: The O of the world of perception and the epistemological world is dead. Long live free will, by means of which we can introduce into these higher worlds whatever we please. The abstractions formed in accordance with human objective, scientific knowledge were not good enough for many thinkers. Rejecting these, they peopled the empty spaces with

—to put it mildly—all sorts of mythologies. Are we, for example, to consider the time-conception as an enlightened anthropomorphism? It is not formed in the likeness of our *ego*, which always wants to be a thing. It is not a *substantivum*; it refuses to be a substance. Temporal direction, succession, is, of course, as we usually conceive it, only an image, an echo of human, animal, organic life, which knows only a forward and no backward movement, for which the accessory concepts of present, past, and future have served simultaneously as foundations and as content.

On the other hand, we cannot quite conceive temporal succession as a mere illusion, to which nothing in the world external to us would correspond. The infinite time-stream rolls onward so powerfully, independently of every observing S, from the ocean of the past towards the ocean of the future, that every intellect is compelled of necessity to reckon with it, even if it originally wished to ignore it. I believe that the time-conception—and it is the same with the space-conception, though this does not force itself so imperiously upon the observing subject—is in actual fact an anthropomorphism, since, owing to its origin in our inner self, our own experience and our *ego*-feeling have contributed to remodel it. But I do not believe that in any other anthropomorphism the intellect has behaved so passively, and has been so greatly affected by its environment and external experience, as in the formation of the time-conception.

If we accept an "in-itself," which to a certain extent conditions our human content of consciousness, and which in perceiving intellects creates appearances of an eternally Unknowable, then in time—and in space also—there will be reasons, apart from "ourselves," which ensure that for us everything perceived and experienced must appear temporarily and spatially orientated, so that we experience the universe as a succession and a simultaneity. I should not hesitate to introduce, for these unknown magnitudes, for these auxiliary concepts, the meaningless words *spatioid* or *temperoid*, for which, of course, still more colourless Greek or Latin letters would have to stand, if we could only assume that the Unknown

for which the letter stands helps to form, in thinking intellects, the concept of spatial or temporal succession.

By this we wish to convey that time and space must not be regarded as mere S-formations formed *only* in and by the intellect, *only* forms of appearance, whereas other concepts may have arisen from experiences and representations remodelled by the intellect, by some sort of S.

The distinguishing mark of our O-philosophy is that it denies the substance-concept. However, we must not say that substance-concepts alone need for their existence, for their formation, an S affected by the O; that would be too crassly inconsistent with our fundamental view. Since we have dethroned the concept of substance we are no longer justified in conceding a more real origin to forms professing to be substance, than that some kind of substance-concept could be formed with the help of an "in-itself" conceived as O; while, on the other hand, a concept of relationship or connection, or some other abstraction, not belonging to the realm of substance, would have to be regarded only as an S-formation, born of S alone. On the contrary, the time- and space-concept is for us nearer to reality than many thought-forms which were earlier taken for substance.

Whether whatever may correspond, outside ourselves, to imagined or represented time, to the time-concept, is something *outside* that which causes the other contents of consciousness, or whether it arises merely from the grouping and reciprocal influence of these other O-conditions of the content of consciousness—this I must either—in accordance with my standpoint—declare to be a problem which we cannot solve, but of which the solution lies in the transcendence, or I must briefly describe it as a spurious problem.

Thus, are time and space real? Are they both real in the sense that they are not merely formations of our intellect, not merely forms of intuition? Or can we ascribe to them no independent existence outside of us, apart from our inner selves? It is not easy to answer this question. In the first, natural, scientific world-picture we do not question that space

and time exist, provided that we are content, for the time being, with these rather empty terms.(71) In the epistemological world-picture we must assume that space and time are transformations which our intellect has worked in external data, basing them, in the case of time, for example, on the universal experience that life somehow, in a certain sense, is directed forwards into the future. In the case of space matters are rather more complicated, but fundamentally analogous. In this transformation of an unknown, which appears as time, the intellect proceeds with little initiative, maintaining an extremely passive attitude. Experience is *sufferance*. The things that are borne through life from birth to death, this series of experiences, which we summarily describe as life, without thinking too much about it, may be conceived, by the exclusion of any concrete content of life, as an empty and abstract chronological sequence, whose only content consists of its irreversibility. Its direction alone defies abstraction.

In the epistemological world-picture we have preserved the time-and-space concept. Herein we differ from Kant and the S-philosophers.

But in the metaphysical world-picture we shall, as a matter of course, know nothing whatever of time and space. We shall never know the nature of whatever it is that gives rise to the time-concept: or even if it has any existence. But the problem cannot be stated even in these words. And if we cannot even ask the question correctly, it is not wonderful that there can be no question of an answer. Everything in the metaphysical world-picture, the alleged "in-itself," no less than the contradictory Absolute, must always remain unknowable for us. Concerning this the reader will learn more in Chapter XI.

Briefly, then, we can say: Time and space are partly beyond our reach. Their foundations, like the total O, lie partly outside us. And the same thing happens if we try to examine things from a higher than the hoministic standpoint. Every intellect is conceivable by human beings only as something living. Hence life, time, and the experience founded thereon form part of the content of a species of super-concept. We have not gained much by this recognition. We are merely sub-

stituting one unknown for another. But in a negative sense we have thereby approached a little nearer to the truth. A dead time, void of content, is very difficult for us to conceive.

I believe that any intellect, even if it stood much higher than our own, would still have some conception of time; for it would surely have to be orientated, in the universe, in some sort of accordance with the time-sequence. The contrary assertion presents much greater intellectual difficulties. It is somehow inherent in the concept of the intellect, that it must think of everything in spatial and temporal succession. Without this intellectual orientation we are confronted with something which can best be compared with the loss of a compass on the high seas. It would infringe our most fundamental principles if we attempted to extend the concept of the intellect to some sort of imaginary formation, to something that somehow thinks without being compelled by this process of thought to take into account the spatial and temporal expansion of the universe.

Thus, without attempting to maintain that temporal orientation, or the concept of space, must overlap into the metaphysical world-picture, we have no choice but to extend the validity of this concept, by reason of its hypothetical O-correlative, beyond the human doctrine of experience. Thus our attitude to time is affirmative. The reader will admit that this faint affirmative answer to the question—really, to some extent, negative and cautious—is the first affirmative which we have as yet opposed to all our cold negations. Almost everything has vanished into the abyss of our scepticism; nevertheless, we believe, and hold it as more probable, that time and space, as relations forced upon us from outside, must have some sort of existence outside ourselves, at least in the epistemological world-picture, although our intellect translates them into the form familiar to us. We are not merely living in a sleep, and everything is not a dream. There is a definite difference between what we call *being* and its opposite; between affirmation and denial. Hence the intuition that there must be something outside us which appears to us as space and

time, and which we cannot explain through our individual *ego* alone.

But I admit that a certain subjectivity must have entered into this intuition. For what thinking subject could contrive to step completely outside his inner self, and form conceptions without reference to his individual *ego*? Here it is entirely impossible to say anything positive.

Thus we have to a certain extent—in the lower world-pictures—admitted the reality of time, which in the highest metaphysical sense is denied. But even if it cannot positively invade the darkest, loftiest metaphysical realm of the Unknowable, it is sovereign enough where we are concerned, and a terrible sovereign at that. Its existence must signify our beginning and our end. It is not so easy to expel death from our human world; not even from the world of thought.

In this section we have been dealing principally with time. With space we are much in the same case; for to begin with, we are forced to realize that Euclidean space cannot be "space itself." The concept of Euclidean space, our concept of space, is a condensation, like the concept of our everyday world, formed with the aid of our five fortuitous senses, to which are opposed *n* potentially conceivable worlds, which could exist only on the basis of other merely potential senses. Other senses, other intellects have other spaces. Space "in itself" is certainly not a three-dimensional human space. It is not, however, a terribly complicated structure in which all conceivable spaces must somehow be contained; it is rather a necessary auxiliary conception, existing apart from our *ego* in the epistemological world-picture, of which we can as yet state nothing positive. This unknown and unknowable form can appear to the human intellect only as three-dimensional Euclidean space. From this we can certainly proceed to think of other, multi-dimensional, and quite differently-constructed spaces, but we are never in a position to represent them to ourselves.

But hereby nothing is altered in the fact that we are compelled to think of everything as somehow spatially formed, spatially directed or extended. And what has already been said

concerning time and its relation to life applies also to space. We could hardly say of space too that it had originated only in ourselves. It has indeed its reasons for being, quite apart from our *ego*. But it must not be understood, from this feeble affirmation, that we should recognize space in the metaphysical world-picture. For us this must always remain in every respect completely obscure.

5. *The fourth attack*

The reader will not find it difficult to guess, after much that has already been said, what the nature of the fourth attack must be. It is delivered from the direction of the so-called S-philosophy, which, taking its point of departure from the subject, the inner self of man, from this central standpoint passes judgment on the totality of knowledge, forming a critical estimate in accordance with the theory of knowledge. This central method of regarding knowledge is consciously opposed to the other possible, peripheral methods.

The S-philosophy has of late won an unusually large number of adherents. We shall have an opportunity later on of discussing this modern tendency, which to my thinking has something romantic about it, and may be compared with neo-Platonic and early Christian thought as opposed to Greek science, or with the romantic mode of thought in vogue at the beginning of the nineteenth century as an alleged victory over the materialism of the eighteenth century.

The S-philosophy stresses the inner, psychical experience, and proceeds from the primary experience, the vague sense of existence common to the *ego* and, consequently, to all other subjects equipped with the *ego*-feeling. It regards the whole of our knowledge of the external world, acquired by means of our senses, as merely a series of data within our consciousness. According to this conception there is no external world in the ordinary sense of the word, in the sense of naïve or critical realism; a world of transcendent objects cannot be verified, hence there remain only the facts of our inner experience, our content of consciousness, above the sphere of which we cannot rise.

The whole vast magnitude and manifoldness of the outer universe, as we learn to know it in our sensualistic world-picture, and which we elaborate with the aid of our intellect, is only to be thought of within the frame of our consciousness. We have only feelings—in the language of epistemology, only contents of feeling—and we elaborate them psychologically into representations and concepts. An external world transcending our consciousness, a pure O, an "in-itself," cannot under any circumstances be verified. In other words, an O-world, an external world, in the ordinary sense of the word, does not exist; neither does past or future. All outside the present experience of the S is *maya*.

All the rest, all that man thinks he knows after thousands of years of experience of the external world, exists, in its totality and in detail, only in his consciousness. Belief in an external world, in something outside the individual *ego*, is to be attributed to the so-called realistic prejudice of man. Actually there are only facts of consciousness. These also are classified and estimated according to a kind of hierarchy. The deepest—and also the highest—stage of our inner life includes the before-mentioned primary experience, something incommunicable, no longer susceptible of qualification, and yet elaborated by the intellect and its "powers"; more a *state* of consciousness than a *content* of consciousness. This undefinable and indescribable feeling, in which the S-component must be thought of as the maximum degree of opposition to the other components, we somehow have in common—and here, of course, we must agree with the S-philosophy—with all other conceivable or comprehensible subjects, men and animals. For the S-philosophy must sooner or later accept the plurality of subjects if it is not to decline into consistent solipsism. The plurality of subjects is of course to be so conceived that every single S must be thought of as complete in itself, as completely detached from the others, and not as forming, together with the rest, some sort of super-S. And this is just as well, for to speak of a super-S, in the face of the mere facts of experience, is a risky speculation.

In the first place, and methodically unique, is of course the

primary experience of the individual subject. But because it is completely inexpressible, indescribable, and unique, it is also, of course, completely uncontrollable and different in every subject. Considered from this standpoint, the primary experience is declared to be nearest to reality, and indeed, to be the only reality, the Absolute. There is, of course, as we shall see directly, a *contrary* conception, the basic conception of the O-philosophy, which is obliged to estimate the primary experience as the greatest illusion; and there is also a less logical form of the S-philosophy, which reckons with a plurality of subjects, and hence with a plurality of the subjectively-coloured Absolute, based on the pure present as the sole reality. I would even say, with John Stuart Mill,(72) or Dingler,(73) for example, with a little Absolute, for just as all the theisms deal with a God who must be less than the Absolute, since He is contrasted with the universe, so this kind of philosophy has its punctiform, microscopical Absolute.

Before we enter into criticism of this train of thought,(74) I should like to say beforehand that the main argument advanced by the S-philosophers in order to justify their opinion is one of an epistemological character. Because, as we know since Kant, we are dependent only on appearances, without being able to perceive the real existence, we have only to take one step farther in order to see that the external world, entirely transcending our consciousness, can only be a hypothesis of our intellect, the reality of which has of course been tested thousands and thousands of times—but of course, from the epistemological standpoint, in vain. For beyond his conceptions of the external world, beyond his vague feeling of existence, man cannot rise.

But when epistemology is mentioned here, I would observe that this is our—so to speak—modern epistemology, which in reality is based upon Kant, according to which an external world transcending our consciousness cannot be proved. There is indeed a much older theory of knowledge, which from time immemorial has entered the very blood of the human race, although no one knows or can know to whom this order of ideas should be attributed. This older theory of

knowledge implies, amongst other things, that there is a great difference between what our subject experiences in a dream and what he experiences in the waking condition. For example, it is to be assumed that there was an older and less critical age during which our ancestors were not in a condition to distinguish experiences in a dream from those of the waking state. There was a time when man believed absolutely in the reality of dreams. The older epistemology led at least a part of humanity, viz. those persons whose attitude was sufficiently critical for them to distinguish dream experiences from others, to this conviction: dreams possess no reality, have an illusory character; but, on the other hand, the experiences of the waking condition, controllable by other persons, may be declared solely and uniquely real. In consequence of this older epistemology, men had advanced even before the historic period to the view that the world surrounding them possessed an indubitable reality. This belief in the reality of the external world, which even now is doubted by no one in practical life, and is repudiated only in philosophy, with the somewhat pejorative expression "naïve realism," was for thousands of years the firmest belief of humanity. That the external world, that matter, substance, and similar abstractions did not exist in themselves, would have been wholly inconceivable to the great majority of the men of the past. Their belief went so far that even the purely theological conceptions of God—the soul, immortality, heaven, hell, purgatory—were thought of as purely material. One can best understand the earlier belief of humanity, in Europe as in most other parts of the world, as a sort of amalgam of metaphysics and materialism.(75)

An exception to this rule is formed by the esoteric Indian belief, which described the external world as an illusory image of our senses, and unreal, and perceived the sole thing existing (in the metaphysical sense) in the primal cause of being, in *Brahma*, which, examined as to its inner content, was equivalent to our innermost being, to our self. Similar stirrings of doubt as to the reality of the external world, and the transfer of real being to another sphere, may be noted in Plato, with his doctrine of ideas, and, of course, in the different varieties

of neo-Platonism. These systems deviate from the modern S-philosophy only in so far as in the exuberance of their phantasy they adorned the alleged Unknown—which was to assume metaphysical rank in place of the repudiated external world—with all kinds of positive attributes; which, of course, modern S-philosophy does not do, for which reason it may still occasionally mislead the few critical intellects. Only the consistent Upanishad doctrine, which explains the *Brahman* as the sole metaphysical reality, at the same time declaring its undiscernibility,(76) and would prefer to suppress all discussion of the subject, forms an honourable exception. We may ask ourselves, of course, how small must have been the circle of those who really understood the Absolute only in *this* sense, and could exercise sufficient restraint to guard against the introduction of positive elements into this purposely obscurest domain?

If we thus compare the ancient, unconscious epistemology, which opposes the illusion of the dream to the reality of the waking life, with Kant's epistemology, which culminates in the proposition that we men, and all perceiving subjects, cannot rise above the phenomenon, and are never in a position to observe the pure O, the "thing-in-itself," we see clearly, of course, that the new scientific criticism of knowledge is far superior to the old unconscious criticism, but that nevertheless it gives rather less attention to precisely this question of the difference between dream appearances and the experiences of waking life. The convinced S-philosophers, if they are sufficiently consistent, are terribly bothered by the dream and hallucinations of all kinds. They must, however, admit that even in the dream and other states of consciousness recognized as illusory there inheres a primary experience, and that, once the psychical reality is accepted as decisive and superior to the physis, it is not so easy to stamp the dream appearances, upon which doubt had already been cast by the old epistemological criticism, as less valuable than the rest of the psychical life, and to refrain from considering them as close to reality as the primary experience of waking life.

In order to find our way about this labyrinth of contradictory

notions, we would once more remind the reader how it is possible to attain to a higher knowledge.

There are practically only two ways of doing so, though theoretically there is a third way. Our knowledge is divided between the already so often-mentioned S and O spheres. If one should seek to attain to knowledge as a whole, this can be done on the path through the S sphere only by taking refuge in a methodical solipsism; or one can proceed by the path through the so-called O sphere only by resorting to methodical materialism.

In order the better to elucidate this proposition, which is, at first sight, a rather difficult one, we must imagine the path leading in the direction of the whole in such a manner that on starting from S we must deny the existence or reality of the external world: whereas if we start from O we shall be compelled to cast a certain degree of doubt upon our inner life or our *ego*-feeling, which cannot be completely attuned with the peripheral attitude. The two practical paths for the exploration of total reality can be followed only on the preliminary condition that the one denies the opposite point of departure towards total cognition, or at least explains it as unreal. A total cognition, in which both the S and the O standpoint would be treated as of equal validity, is once for all impossible, owing to the constitution of our human intellect, or, as Vaihinger would say, of any intellect whatsoever. It would be theoretically conceivable if there were a sphere at our disposal in which a synthesis of S and O would be possible. We shall see later that only one conception could satisfy this demand, which is, in fact, the conception of the Absolute, which is itself so burdened with all kinds of fictions and antinomies that it can only be relegated to the gloomy realm of agnosticism.(77)

If we have no alternative but to outline a consistent world-picture which shall be satisfactory from both standpoints, we must decide which of the two possible standpoints can be described as nearer to reality. In this connection, the surrender of our so-called common sense required by the O world-picture, and obtained by pursuing the materialistic method, will be

more easily conceded than that enforced by the opposite conception (see note 82). Thus in the case of the O-conception we are compelled to cast doubts upon only a part of psychical experience—namely, that which cannot under any circumstances be proposed as an object of investigation. It is our deepest self, the primary experience, the part of our *ego* which absolutely declines to be observed or explained by human words and concepts. The inexpressible, the uncontrollable, appears to us, under these assumptions, to be purely illusory. It is the superlative of illusion; it is, peripherally expressed, the necessary biological illusion of the organism, the illusion that it possesses an *ego*, the illusion of the *ego*- or existence-feeling, which in our nomenclature must be designated an illusion, since it eludes criticism by other subjects, and even for its own subject is inaccessible to any closer observation, or even to critical treatment. The thought that the deepest self, the primary experience, is only an expedient of the will to life, which is necessary for a complicated cell-state in the struggle for existence, but which does not reach full development in the plants, and is interrupted in animals and men by dreamless sleep, is of course borrowed from the sensualistic world-picture, or rather, from the naturalistic philosophy, and is, at the first glance, rather surprising to the convinced S-philosopher. But if we consider the matter more closely, the view that the *ego*-feeling is, and must remain, a lifelong illusion for every perceiving subject, does no violence to sound common sense. A state of consciousness in which the S-component is in the maximum, as contrasted with those cognitions which can be criticized by other subjects, or tested for correctness, may, by reason of its uncontrollable character, be described as illusory without doing violence to our common sense.(78)

The opposite standpoint requires us to repudiate the reality of the whole external world. The ancient Indians were able to do this, under certain circumstances, by their still quite undeveloped science. Also Plato and the neo-Platonists, in spite of the already flourishing state of science in Greece, were able to make such a decision. For us, who owe such an enormous debt to the peripheral attitude to natural knowledge,

a denial of the external world is a sacrifice which cannot be so easily required of us. In earlier chapters we have so undermined the belief in matter, in substance, in the metaphysical reality of the external world, that we can no longer give our assent to any such conceptions. Yet something still remains, from which we cannot escape without the hypothesis that there must be something around us which appears to us in some way. It may be that Kant's conception of things-in-themselves, in its original form, contains something dogmatic which we should somehow like to dispute. But however much fiction we might perceive in this conception, however greatly we might distrust what transcends our consciousness, we should have to throw overboard our whole nature, and the life-forms which have emerged with such difficulty through millions of years, if we were to oppose this hypothesis of an external world by a complete negation. And the thing that must be especially emphasized: the consistent S-conception, whether based on the old principle of Berkeley, *esse* = *percipi*, or developed in the modern, reservedly sceptical sense of Reininger, is and must always remain a solipsism. Only my primary experience, only my present, are real: all the rest is either an illogical mystery,(79) or, like the plurality of subjects, it can never under any circumstances be brought into harmony with the consistently-sustained S-standpoint. A consistent S-philosopher must from his standpoint reject all other subjects, just as he must reject an external world conceived otherwise than subjectively. And even the S-philosopher's usual conception, that the picture of the external world would remain quite unaltered if we could imagine it as somehow embedded in our consciousness, must, if logically followed to its conclusion, seem strange and absurd. If in the pure solipsistic sense there is only an S, a primary experience, an Absolute, a unique consciousness, in which the external world is embedded, it is of course no super-consciousness, but only the poor, fortuitously-formed consciousness of a single subject, which accidentally represents this theory, and must remain convinced of its uniqueness, though bombarded with contrary arguments. But if (to conceive the matter a little less consis-

tently) there is a plurality of subjects, then we have this same world as many times as there are subjects, always in some way embedded in every one of these innumerable consciousnesses. One sees that the consistent and less consistent S-conceptions always lead to absurdities.(80)

The opponents of the O-conception have much to say about the so-called realistic prejudice. Are all of us—we who think and arrive at the conclusion that there is for us all a more or less perceptible external world—to succumb to this prejudice? In our opinion the matter is related to the realistic prejudice in the following way: we stand at a cross-roads; we do not know whether we ought to believe that there is nothing outside us, or that there is yet something, which influences us in some kind of way, which we can perceive through the coloured glass of our intellect, without knowing what this something, which somehow appears to us, really is. We decide for the second possibility, because, for us, the working hypothesis that something exists outside us—something of whose existence, indeed, in the epistemological sense, we cannot convince ourselves, but concerning which, in the less profound psychological sense, all, or the great majority of subjects, are able to come to an agreement—offers us more than restriction to the otherwise unintelligible and uncontrollable primary experience. We are led to this, above all, by an instinctive and conscious tendency to be *passive* in respect of all the impressions rushing in upon us from the external world, which we perceive only in the primitive pleasure and pain feelings that condition our whole knowledge of the external world, and with which we must come to some kind of understanding if we are to live at all. The inner meaning of this passivity is that we arrive at the instinctive conviction that we are not alone in the world. If the pre-Kantian thinkers proceeded uncritically in the dogmatic belief that we are in a position to perceive the pure object, the error of the philosophical theorists who believe in a pure S is almost as great. These philosophers do not, of course, maintain that they believe in the pure S, being, as a rule, too highly cultivated to betray this conviction in other than a negative manner. They merely oppose the realistic

prejudice. If this prejudice is to be condemned, as the S-philosophers believe, then apart from the primary experience the whole inner psychic life of men and the higher animals is likewise a prejudice. Even the logical principle of identity, the principle of contradiction, and all the bases of human logic are prejudices. What, then, is not prejudice? Where is the criterion? Thus, as Kant doubted the reality of space and time, and *only* the reality of these two "intuition-forms," leaving the rest of the categories unassailed, so the modern S-philosophy doubts *only realism.* We, however, declare, fully conscious of the consequences of this proposition: the realistic prejudice, *c'est moi.* We cannot, in the long run, believe that we are alone, that there is nothing outside ourselves, not even external impressions, but that even the primary experience occurs in some way spontaneously. And these are the consequences of condemning the realistic prejudice. If we are not to think anthropomorphically, and abandon, for example, the belief in substance, we must not again carry criticism so far as to land ourselves in the *cul-de-sac* of solipsistic nihilism. There is doubtless also an epistemological prejudice! Every man can say: the realistic prejudice, *c'est moi.*(81)

I believe we run into this *cul-de-sac* only in consequence of the over-valuation of the primary experience, and the artificially erected barriers between the primary experience and the rest of the psychical life in the higher stages of reflection.

Our opinion, then, is as follows:

(*a*) We are certainly opposed to all hasty dogmatism. In ultimate questions one can never be too sceptical.

(*b*) But any criticism must have an end, if we do not wish to deny all the relatively well-founded knowledge of mankind *in toto* and in detail. Just as we have given up belief in matter, in the old sense of the word, and in substance—just as we know that we can never grasp the "in-itself" of things—so we are unable to feel satisfied with the solitary existence of our S, and to reject everything outside this S.

(*c*) Even though we are a hundred times aware of the fortuitous character of our senses and the incompleteness of

our intellect, and though we confront the external universe so sceptically that we look upon it as almost empty and dead, and regard matter, in accordance with the present standpoint of science, as the equivalent of congealed radiation, yet we cannot escape from it, but hold fast to the hypothesis of an O, even though it is, for us, completely unattainable.

(*d*) We know very well that there is no absolute knowledge, and cannot be. If we theoretically include it in our *Weltanschauung* it is only a sort of auxiliary conception, and we are well aware that such a knowledge is conceivable only in the realm of the unknowable. Practically this means merely that there is no knowledge for us, that there is no knowledge at all.

(*e*) Of possible forms of knowledge that of critical realism is nearer to truth than that of idealism, because, in spite of the accepted working hypothesis of an external world transcending our consciousness, it is, after all, that which does less violence to our common sense. The acceptance of the illusory character of the *ego*-feeling is in our eyes a less evil than the denial *in toto* of the external world; the index of immediacy in primary experience must not be overestimated; we shall regard the possibility of control by the assumption of several perceiving subjects, and the common epistemological work on a world-picture that belongs to us all, as of greater value. This leads us, after all, to a relatively reliable knowledge, and saves us from the devious byways of the erroneous solipsistic doctrine.

Our most valuable ally in this region, wherever the epistemological aspects threaten to become too one-sided, is psychology. We should be the last to maintain that this modest science can suffice for our needs. We have no intention of dispensing with the Kantian epistemology. Psychology *alone* would lead us to take altogether too superficial views, but the psychological outlook, in its "truth to life," is just as necessary to the all-too speculative epistemology as is the research conditioned by this science to its unassuming sister-science. Psychology is modest, unexacting, and purely descriptive, but therefore capable of evolving. It shows, very clearly, how man,

from his primal, animal origins, has slowly attained, by the road of passive reflection, to ideas, and by the road of active reflection, to conceptions. For psychology many of those problems which cause the S-philosophy so much perplexity do not exist—such as the problem of the second person, the problem of time and space, the problem of affinity, the problem of the cause of sensual perception, and so forth. The collaboration of psychology and epistemological criticism is the collaboration of the senses and the intellect. The relation of these two components depends on the thinker. It is possible that the thinker who esteems psychology, hence experience and sensualism, more highly, will be more likely to adopt the O-standpoint in philosophy than one who regards the intellectual components—reason and epistemology—as more important, and is consequently more inclined to adopt the S-attitude.

Analogous to this relation between psychology and epistemology is the relation in science between the descriptive doctrines and mathematics. Hence, in the history of human thought two schools can be demonstrated: One is based more on the intellect and its reflective activity, which would like to recognize an absolute human knowledge, and is generally inclined to dogmatism. In this school we should include the old Indian thinkers; and further, Pythagoras, Plato, the medieval scholastics, Hegel, Husserl, and the modern S-philosophers. The second school is based on the experience of our senses and natural science. It has been from the very first less severely orthodox, not averse from the notion of the relativity of human knowledge. To this belong Democritus, Epicurus, Bacon, Locke. . . . Einstein, most medical and scientific men, and the modern O-philosophers. This second school has always been regarded as slightly superficial. I do not think it has ever been justly estimated. It has always been the school of the physicians and physicists, just as the other has numbered more priests and jurists. The scientific school has relied upon experiment, observation, and discreet induction, and has admitted that there are an infinite number of things that must forever remain inaccessible and incompre-

hensible to humanity. The thinkers of the other persuasion have been more addicted to confident deduction, have manifested much self-consciousness, and have required much faith of others. It is of course quite possible that to-day there are even S-philosophers who practise strict criticism, discretion, and reserve in respect of the new conceptions, especially in respect of positive conceptions. But they are exceptions, and only quite recently have there been such exceptions. Their predecessors were very different. Until recently it was the rule that radical scepticism, despising all human knowledge, all O, lay claim to an alleged higher knowledge in those spheres in which, after the critical rejection of the O, only the blackest negation should have existed. All sorts of phantasies were introduced in regions where, after the expulsion of the despised science, only negation should have reigned, and thereby the door was opened to the blackest obscurantism. The second school, of course, often appeared superficial, and tended to materialism, but it never lapsed into such obscurantism.

In our own point of view we should wish as far as possible to combine both aspects, offer a synthesis based on the mutual criticism of the two systems, and endeavour to go forward on this hypothesis.

The psychological standpoint is influencing the subject. We have a psychology of thought, a psychology of *Weltanschauungen*.(82) Only from the standpoint of psychology can we clearly understand why there should be such great differences in the region of *Weltanschauungen*, and how many thinkers have so organized their inner life that they incline to follow a definite direction. Only this science can explain, for example, why Hans Driesch thinks so highly of occultism, why Vaihinger has made the concept of the fictions the central concept of his whole system, why Herbert Spencer proceeds from evolution, and why Mauthner perceives the fundamental defects of our mental development in the imperfection of our speech. Only psychology will explain why other thinkers overestimate the primary experience, and see such high walls between it and the rest of the psychic life. Every editor thinks it proper to preface the works of a philosophical author by

a psychological analysis of the philosopher. From this analysis it should be obvious why the philosopher in question had to develop just these and no other views, why the fabric of his system had to acquire just this and no other subjective colouring. In science such a procedure is not necessary. In philosophy the deeper we penetrate the more necessary it becomes. Of course, the more critical the philosophy, the more sceptical, the more given to negation, the less it searches for the Absolute, the less necessary will it be to resort to psychological explanations.

But psychology is important not only for the personality of the thinker, his characteristics, and his hypotheses; we need it also for the criticism of philosophical thought itself. If to-day we discuss a great philosophical conception we must first of all give the history of its origin and development on a purely psychological basis. The present work attempts something of the kind in respect of the concept of the Absolute. We cannot continue to assert that psychological knowledge is too humble, that it offers us only experience and nothing higher. Indeed, if experience is reasonably combined with epistemological criticism, it gives us the highest stage of knowledge which enters into practical consideration. It is a question whether there is a still higher knowledge, and, if there should be a theoretically higher one, whether it is nearer to the truth.

We believe, for example, that the recognition that "we must all die some day and shall be dead for all eternity" is on the whole of great value to us, although it is based only on experience. How can it be refuted? From the empirical standpoint, by nothing whatever. In the so-called higher stages of knowledge, of course, it can be refuted by the explanation that eternity is an illusory concept derived from the concept of time, and only an intuition-form of our intellect. In reality no such thing exists. The primary experience is timeless, and only that is absolute. Thus there exists, even in a higher knowledge, no time, no death, no eternity, no past, no future; just as no external world exists. I am afraid, however, that this alleged higher knowledge is no "nearer to reality."

It seems to me that it is very difficult to defend this higher

knowledge. Granted, we see and think imperfectly; granted, we have no absolute knowledge. We have seen that there can be no such thing; but to reject on this account the basic hypothesis of our spiritual life in time, space, causality, and so forth, without irrefutable reasons, and to assert that there is a higher being in which they do not exist, seems to me incorrect. We get no further with the everlasting repetition that our knowledge is not complete. Is there really a higher knowledge? Perhaps. But of what kind is this knowledge? Can we maintain that this knowledge excludes, for example, the time-and-space concept? We do not venture to assert anything of the kind. Any other, higher knowledge than the human is merely thinkable, not imaginable. Any attempt to represent the content of this knowledge is, from a critical standpoint, merely to build castles in the air.

I must insist that the continued existence of the world after the death of any individual person seems to me so important a point that although logically and critically and epistemologically it cannot easily be defined, it nevertheless deserves that one should erect a philosophical system on its basis. This very point, which cannot be eliminated from the world, because it is always being newly confirmed by daily experience, shows that there is some O without my individual S, or without any S, and that the index of consciousness does not include the entire O in itself. There are also things outside our consciousness of which we must agree that they still *are*, in so far as it is possible to employ the terribly eleatic verb *to be*, which constitutes a whole chapter in itself.(83) I might summarize what has already been said in the following manner: the everyday experience that through the death of any individual S the enormous world-picture O does not cease, should be reckoned among those fundamental cognitions which allow us to suspect that the S-philosophy is a modern movement, which began with Berkeley and Kant, and to which, in the development of human thought, only a theoretical validity is to be accorded. The thought-forms created by it are theoretically, of course, unusually valuable, and one must not overlook it. But its importance will be overestimated if one labels

it as the unique truth and rejects the opposing epistemological considerations. The S-philosophy assumes, in the history of human thought, a high but not the highest rank. It is an aspect among other aspects. Epistemology, of course, ought to purge and fertilize all special scientific and philosophical provinces by its criticism. But it can never be responsible for a positive enrichment. Our S offers knowledge a coloured glass, whose influence upon the world-picture is not altogether favourable. But for this reason our world-picture always retains its relative value, if only because we have nothing better to put in its place.

Our epistemological world-picture, gained from the O-standpoint,(84) which, with the results of science, will be comprehended in a coherent whole, will never degenerate, even though its tendency is critical and sceptical, into philosophical radicalism, as the contrary opinions are compelled to do.

At the close of these expositions the reader will probably come to the conclusion that we have actually approved of the three first attacks on the world-picture of naïve realism, and have declared ourselves in accord with their destructive activity. But we do not associate ourselves with the fourth attack, which, if we take the standpoint of modern scientific and philosophical knowledge, we may regard as repelled. We do not believe in substance, matter, or the possibility of an absolute knowledge; we do believe, however, in something outside our consciousness, in respect of which individual subjects might come to an agreement.

### 6. *Our results so far*

I think it will save time and trouble to pause for a moment, and to summarize the results of our work up to this point. We are, of course, very far from having reached the end of our labours; none the less, a brief glance at what has been achieved will facilitate our further activities.

1. Above all, we do not regard the standpoint of dogmatic, or even of methodical solipsism, as providing an adequate aspect for critical philosophy. The fiction that we are quite alone in the universe leads, in its further consequences, to

absurdities. For us it is as good as decided, even though it is not epistemologically demonstrable, that besides our *ego* there is also a non-*ego*; that is, the external world and other subjects "exist."

2. The external world consists for us in appearance; nevertheless, we are compelled to have recourse to the auxiliary concept of the pure object, that is, of the thing-in-itself, whether we employ this name for the reality transcending our consciousness, or whether we make use of another designation. The thing-in-itself is to be understood as our agreement that something appears to us in some way. It is incorrect to speak of a causal connexion between the thing-in-itself and the phenomenon, as if it were the cause of the phenomenon. The causal connexion is here only a *form* under which these things appear to us, but whose metaphorical character must be always emphasized.

The thing-in-itself does not "exist" in the sense of the naïve realism, as if it could ever be an object of observation, and one must not introduce anything positive into it. Still, we must *not* assert that the "in-itself" has a *metaphysical existence*, whose feeble echo is the *maya* of appearance. The Platonic metaphysical essence is to some extent a higher quality; the "essence of the naïve realism," the "in-itself," does not stand above appearance. Any valuation is here out of place, and even if we admitted it on principle it would here be methodically incorrect, since the thing-in-itself is an enchanted Sleeping Beauty, which no Fairy Prince can kiss awake. The moment he kissed her she would become an appearance. The kissing Fairy Prince is, of course, the perceiving subject. What the Sleeping Beauty is for us is for ever unknowable.

3. "In-itself" is a *privatio*, an O without S, an airy vision, which, to whatever kind of subject, is for ever inconceivable. The only positive thing about the thing-in-itself is a kind of double negation; namely, that it is unthinkable to imagine the subject alone without the help of an O.

4. We must recognize the validity of the time-and-space conception not only in the empirical and sensualistic, but also in the epistemological world-picture. If we consciously go out

of our way to consider the problem of the "in-itself" of these concepts, we take it to be a synthesis of subjective and objective moments, and not a pure S-creation, not a mere imagining.

5. In both conceptions there are many negations: succession is as inconceivable as simultaneity: the time-sequence does not permit of reversal. In this respect space signifies less than time; spatial relations are reversible, and the most different kinds of spaces are conceivable. Euclidean space is only one among many. Time, however, is one and the same. Perhaps I may express it in this way: In the time-conception our intellect could not have introduced so many S-moments as into space. Time must be more to the "in-itself" than space. I am here, of course, speaking only metaphorically; I wish to express a probability, not to make a confident assertion.

6. Apart from space and time, which represent only directions and relations, but not things, and, further, possess neither "substance" nor "existence," as we are naïvely accustomed to assume, the external world consists of antecedents and co-existences, which we learn to grasp as qualities and changes. In these qualities and changes there is—humanly speaking—apart from a great number of "irregularities," a certain exceptional "regularity." *We* are of such a quality that of the rich abundance of happenings much appears to us as regular, but much as the contrary of regular. From the standpoint of other imaginable intellects there might be rather more or less regularity. But for us it is very difficult to imagine that nothing outside the perceiving subject corresponds with these regularities and irregularities which signify the order and disorder of qualities and changes, even if we have to concede that the so-called order may be nothing else than our image of the external world, which we and only we have created for ourselves out of many other possible images.

7. The universe cannot be known by means of our speech: that is, by means of our thought. Speech originates from a time when man still thought of the world as quite small and simple. Speech is sensualistic; it corresponds with naïve realism, which was properly a materialism.

8. In appearances and relations we always remain only on

the surface. We describe only changes and qualities. The "in-itself" is only postulated.

9. It is beyond our capacity to decide:

(*a*) when we really do *not* know something,

(*b*) when spurious problems confront us, among which, of course, are the so-called ultimate problems.

What we "do not know" we shall perhaps know in the future. It is the essence of the spurious problem that its insolubility is inherent. It properly speaking does not exist; in it the matter has merely been wrongly stated.

10. The insolubility of ultimate problems is shown in this, that intellectually we must admit that affirmation and negation occur simultaneously, which leads to antinomies. Sometimes we cannot assert even this. Sometimes we are compelled to form sentences between whose subject and predicate no definite relation exists.

11. Our world-picture is something like a temporal eternity and a spatial infinity, or something nearly approaching to it, which for the most part is empty. The vacuum in space is immeasurable compared with the filled areas. The aeons of inanimateness are immeasurable compared with the duration of the unconscious inorganic life of the stars. These again are incomparably great compared with the duration of conscious life. The emptiness and lifelessness of the universe is *almost* complete. The insignificant fraction of its positive contrary means everything to us.

12. In accordance with the ideas of modern physics, matter appears to us as energy, sometimes as congealed radiation. This is the form now assumed by our earlier and much more hominist conception of matter, and even of substance.

13. We human beings were long the victims of the infantile yearning to animate the universe: that is, to interpolate something *ego*-like in our notions of the external world (anthropomorphism). Earlier parts of this exposition endeavoured to show how out of the crudest animistic and fetishistic anthropomorphism there arose, in the course of time, the sublimated form of theism, and from this pantheism, and from pantheism the sublimation of the great neutrals—of principles and the

Absolute. This personification was the work of an imperfect intellect, and the sub-conscious human desire to transfer all kinds of abstractions—such as activity, purpose, and meaning —from the sphere of the little to that of the infinite. This leads to endless confusion, since we animate most of all precisely those things in which there are no physiological preconditions of the psychic life, or where the psychic is contrary to reason (it is for us conceivable only as S, with the exclusion of non-S, and hence less than the infinite—$< \infty$—therefore *finite*), and to imagine a personification of the universe corresponding precisely to us human beings, the chance inhabitants of a single planet, is to imagine the supremely improbable.

Thus, as by our criticism we have destroyed all anthropomorphism capable of proof from the standpoint of our human knowledge, so we have also destroyed the *cause* as a real conception, and finally, every "thing," that is, the substance and the being (to be), its verbal form. We have still, of course, a good deal to learn about the cause-conception.

14. Since the universe is almost empty and almost dead, but not entirely empty and not entirely dead, the first state is the more probable, so, analogously, will the proposition be entirely improbable that *all* our conceptions of the external world are merely *maya*. Here and there perhaps our notion of the external world may have some analogy with reality. We cannot, of course know where. Beyond the observation of certain regularities, of a certain order, which we grasp to some extent with the help of time, space, and other relations, we can never go.

### 7. *The Conservation of Energy*

Lastly, in this connexion we must make some mention of the so-called principle of the conservation of matter and energy. When Lavoisier discovered the first principle, as when, about fifty years later, Mayer, Joule, and Helmholtz discovered the second, this epoch-making discovery was of course a phenomenon of reaction against the absurd older view that matter—that is, energy—vanishes from the universe. It was established that this is not the case. The sum of matter and

energy—or of energy simply, since what we call matter proves on closer observation to be energy—remains always the same.

This principle, like everything else, has many aspects. Looking downwards, we see that in comparison with the naïve older physics and theology it represents an enormous advance, and is "truth." No more fairy-tales can be told of "creation out of nothing," and so on, and if they are told they can no longer be put forward as truth and science. Now, looking in another direction, we will consider it from the standpoint of modern physics.

There is no doubt that our present views (since the discovery of radioactivity and the investigation of the minute structure of matter) are in contradiction to this classical principle. Since Einstein we know that radiation is bound up with the annihilation of matter, that annihilation of matter is possible, and that this sets free an enormous amount of energy.(85) We know further that the sun daily loses 360 milliards of tons of matter through radiation, that atoms are subject to annihilation if the proton fuses with the electrons, which must happen if they approach one another too closely, and that the end of the world will be a complete consumption of all matter, which must happen sooner or later. Jeans (I) discusses this in quite a melancholy strain (pp. 206 and 347 et seq. of the oft-quoted book).

Whether this is entirely true remains a question. For example, the nature of the atoms, the fact that under certain conditions they cannot "vanish," but cease to give out energy, the fact that the protons cannot everywhere approach the electrons so closely as to annihilate matter (Jeans, I, p. 146 et seq.), is a certain guarantee that the stability of the universe persists and will persist.

Our modern astronomy, indeed, maintains that on the sun yet other atoms exist, which can be more easily destroyed than on the earth; but all this is still indeterminate. On the other hand, we do not know whether in a higher sense we can speak of the annihilation of matter. In the dogmatic sense matter does not exist; it is, of course, only energy; and it is only energy of a higher potential, available in many ways, and

capable of supporting life, that somehow changes into energy of a lower potential, available in fewer ways; or into amorphous energy, incapable of further changes. A retrogression is of course impossible, according to modern science. But perhaps this is only a *cul-de-sac*, from which the science of the future will liberate us again.

For I still regard the liberation of highly available energy by the destruction of matter and its transformation into amorphous energy as something which has to be made good; if I did not so think I should really have to take refuge in creationism, in a kind of inexplicable creation of energy of greater availability (compare footnote 51). And here, a few words by way of philosophical accompaniment:

The conception that the universe which can be signified by $\Sigma\infty$ always remains the same, that the principle whose validity is observed on the earth is valid also in the macrocosm, is grandiose, and in no way repugnant to our intellect. The thought that we are compounded of the same atoms as the Jurassic lizards, that in us the same forces operate as in them—that in us forces operate and atoms continue to exist which have already existed in solar systems which preceded ours, and this a centillion times and more—is a tremendous thought, which dazzles us with its titanic spell. As for a thought that has, on a small scale, a certain meaning—namely, that our bodies will decay in the earth, and that from them will arise other organic substances, and material for new bodies —in the macrocosm, and from a higher point of view, this thought loses significance.

The manifold forms of physical matter were transformed for us, by analysis, into a more or less uniform, colourless electrical energy of some kind, which is inaccessible to our senses. On further analysis it changed into a sort of existing and yet non-existent, potential and problematical "in-itself." Can we after all take any interest in the question whether this or that part of this "in-itself" has survived many solar and galactic epochs? Does it concern us that a cubic kilometre of empty space in this or that direction from humanity—let us say some two million kilometres distant—is not identical with

another cubic kilometre of empty space in the neighbourhood of Mira in the Whale, or in the nebulae of the constellation of Canis Major, or somewhere outside the Einstein universe?

And lastly, is there for us much difference between this vacuum and this non-vacuum? In our immediate neighbourhood, and of course in our own world, we can fix our thoughts upon the non-vacuum, but not on the vacuum; the non-vacuum is full of potentiality, but not the vacuum. But this difference, on account of which we do or do not feel interest, has no validity in the supra-hominstic universe, and it vanishes entirely in the limitless temporal and spatial distances and the measureless masses. "How far is that which once was mine!" we may say with the poet.

And how little interest, ultimately, is inherent in the gigantic questions: What is the difference between the dead emptiness of infinite magnitude and the relatively small—though also, of course, immeasurable—spheres of potentially living or sub-living energy?

I put these questions only in a physical sense. For in order to compare two "in-themselves" which would approximately correspond with these sensualistic conceptions we should have to state a problem which for every intellect lies in the Unknowable. Resignedly we admit that this is, for us, a spurious problem.

We abide, then, by the physical world-picture.

Einstein's or Jeans's theory of entropy and the old theories had in common the belief in death through heat. We have already suggested, and must do so again, that the very circumstance that death through heat has not hitherto occurred is a reason for arguing that there is something wrong about the theory of entropy, since it is difficult to conceive time as non-eternal, and we find it hard to accept its circular revolution.

In the finite Einstein space a "worse," a more thorough death can hardly occur than the translation of the universe into the state of—273° C: in a word, than death by cold. In an infinite empty space a finite universe could of course perish in this manner, since energy could radiate to infinite distances; yet there are still intellectual difficulties, for energy,

of course, cannot be lost, but can only be transformed to a lower level; while, on the other hand, it must inevitably be lost by contact with $\infty$. But these are difficulties of a logical nature only. It is of decisive importance that neither the one nor the other death has occurred so far, and for this reason will probably never happen.

We have seen that for us the circumstance that everything is hastening to thermical death, and yet has not died, and will not die, is important for us, because it is one of the reasons which speak for the spatial boundlessness of the universe, even if temporal eternity cannot be refuted. According to this there are either two infinities or none, and in the second case we are perplexed, so that we can more readily accept the former as conceivable. Nevertheless, all this is unknowable, for dogmatic infinity and eternity alike come up against intellectual difficulties. These are of a more trivial nature, but they exist. The sum of energy in the infinite universe amounts, under the assumption that the ratio of matter to empty space is the same as in our metagalactic world, to $\Sigma = \frac{\infty}{10^{48}}$, and therefore $\Sigma = \infty$; if we assume that there are far greater vacua than the empty spaces of the universe of the third and fourth order, however greatly the denominator of the above fraction is increased, the sum will still remain $\infty$.

In the Einstein universe the ratio of matter to vacuum is as 1 to an octillionth. Thus the vacuum is enormous beyond all power of imagination, but the matter insignificant. The universe is therefore almost dead.

In the infinite universe the increase of the difference between the two magnitudes is evidently very much greater. But in this case we have for both magnitudes the value $\infty$.

That the one $\infty$ is unencumbered, while to the second a denominator of perhaps a million digits is attached, causes us intellectual distress, as we have to understand both expressions as $= \infty$.

That there are $\infty$'s of different rank may be asserted, but it is beyond our capacity to imagine a difference between $\infty$ and $\infty$. This may mislead us into supposing that the $\Sigma$

of the potential life and the sub-life in $\infty$ could in a sense appear greater in comparison with the inanimate.

Yet we know that in the Einstein universe the ratio *decreases*. Further, that the infinite universe is immeasurably empty and inanimate. And the sum of the non-vacua must also be imagined as $\infty$. Here we perceive an antinomy, and the impossibility of thinking in these high latitudes. The signs $>$ and $=$ coalesce.

So, in the greatest height, "is" and "is not" (being and not-being) are one. All these terms are appropriate for the little outer world, but lose their validity in the high latitudes.

Our intellect is curiously constructed. In the infinite it becomes impossible for us to imagine anything, so that gradually and resignedly we lose all interest. The elasticity of the conception $\infty$ robs it of significance. We have only gained some intuition of the fact that the law of entropy, combined with our experience hitherto, leads indirectly to the acceptance of an infinite universe. Nevertheless, we know nothing of the state of this universe, nor do we know how this law and all the problems connected with it will be modified by future generations.

## NOTES

62. Concerning the structure of the atoms, there is to-day, of course, a whole literature. What transformations our views have undergone may best be perceived by comparison of the works of Mie (1911) or Becher (1915) with those of Born or Bohr (1922), and especially with those of Jeans or Eddington (1931). I think the reader would learn most by reading Jeans, I, pp. 107–167. I note, above all, that the number of the orbits in which the electrons revolve round the proton depends on the atomic weight; e.g. in H there is only one; in heavier atoms there are more; the orbits are called K, L, M. In consequence of enormous temperatures—some millions of degrees—the atoms become ionized, i.e. lose their electrons, or at least the orbits L and M. The orbit K is lost only in the extremest heat. Further, it is significant that in the atoms not only electrons and protons are present, but also electro-magnetic energy (Jeans, I, pp. 132 et seq.), which, metaphorically speaking, appears to be an accumulated radiation. Of even greater significance is the fact that in the course of time the atoms—provided no external influence,

such as radiation, begins to operate—reach a condition in which their electrons move with a *minimal energy*. This is a condition in which they can lose no more energy (I, pp. 146 et seq.). This property, which at present we do not sufficiently understand, keeps the universe in the condition in which it exists. If this were not so, the total energy of the universe would be lost through radiation in the fraction of a second. (Compare, however, I, pp. 206–212 et seq.). Is this statement of modern physics a new formulation of the old theory of "cosmic inertia"? It will be very interesting to learn what further scientific developments will say about this. On I, p. 152, Jeans has a profoundly thoughtful passage, in which he expresses the opinion that the human intellect will never be able to grasp the real truth concerning the atoms and their properties, or why under certain conditions they can "give up" no energy. From this it can be perceived how far the scientific empirical-critical picture can go, and how within the frame of our intellect it is able to undertake a very positive criticism while an even more penetrating epistemological criticism will still be merely negative.

63. It is evident that the word "electricity" in this connexion is too learned, too technical, too special; in short, unsuitable. It originates from a time when it was thought that its general diffusion was unimportant; it served, so to speak, as a physical chapter-heading for explanations of the phenomena of contraction in frogs' legs, etc. But now electricity has been shown to be the universal foundation of everything; the prime force and the ultimate origin of everything. The consequences of this recognition should be expressed in the nomenclature.

64. This is a very important fact, which cannot be too strongly emphasized. At bottom there is no difference between the anthropomorphizing activity of our intellect when it conceives the belief that the other man, the other animal, is something similar to myself, and a wider activity, which hypostatizes personality—that is, the *ego*-feeling—in trees, inanimate things, the planets, and the universe. Decisive here, of course, is the human experience of many, many years arising from the scientific (sensualistic and empirico-critical) world-picture: in the first case the analogical judgment is justified, as it relates to another man, who likewise possesses a body, brain, nerves, and so on. But in the second case, where it relates to trees, stones, and stars, it is not justified, since the sensualistic world-picture tells us that it is dealing with things which have to be anthropomorphized, and are without nerves or corporeal foundation. What is valid for the inanimate is valid in a still higher degree for abstractions, i.e. for our concepts, which we are fond of humanizing. From this activity arose the belief in gods and ghosts, and, of course, the belief in the *substantiva*.

65. Knowledge in the highest spheres is an impossibility by reason of the disparity of the human intellect with the so-called reality. Quantitatively this can be demonstrated: S is never $\infty$ but always $< \infty$, whereas O in this case is always $\infty$. Qualitatively this can hardly be expressed. Propositions such as "There is no absolute truth" or "There is no objective truth" I feel as a negative analytical judgment. With this judgment the peak is removed from the epistemologico-critical mountain. Hence one may say that on this highest stage one can only be silent.

66. I am thinking here, for example, of the inhabitants of other planets, whom we can imagine as endowed with lower or higher intelligence than human beings. I am thinking also of the stages of reason arrived at by our own race in the more distant future of the earth's existence, which, in comparison with our present condition, ought to show a much greater difference in mental development than we have succeeded in achieving since the time of the Neanderthal man.

67. The constant repetition of this proposition would be absolutely distressing, if it were not necessary to demonstrate the fact afresh. For there are people, and not only in so-called lay circles, who are quite as convinced as we of the possibility of the "in-itself," but are less capable of restraining themselves from occasionally ascribing something positive to the "in-itself." In order that the reader may see that I do not exaggerate I select at random the opinions of really eminent philosophers, who in respect of the so-called "in-itself" do not appear always as reserved (in the sense explained above) as we should wish.

(1) The Upanishads perceive the Absolute and at the same time the "in-itself" in our deepest self, in the equation Brahman = Atman.

(2) Plato has his well-known doctrine of ideas.

(3) Kant speaks of the *categorical imperative*. The "in-itself" is unknowable; hence there is nothing absolute, neither can there be anything categorical.

(4) Schopenhauer and Dingler regard the principle of will as absolute.

(5) With Eduard Hartmann this rôle is played by "the unconscious," a conception not so entirely negative as would appear at the first glance.

(6) In this sense Deussen has introduced the "principle of negation" into philosophy; in a certain sense he too recognizes will as the Absolute.

(7) Bergson has his metaphysical *élan vital*.

(8) Müller-Freienfels writes of an "irrational dynamism."

(9) Erich Becher (*Weltgebäude*, p. 146) sees the first cause of being in psychically conceived "monads."

This selection could be continued at will. It is a kind of human

instinct to introduce known relations into postulated and unknowable spheres.

68. This equation is valid, of course, only so long as we remain within our picture—that is, only so long as perception, in order to simplify the relations, is reduced to the single *visual* faculty. With regard to the circumstance that the subject may perhaps possess other possibilities of perception and other senses, it must be accepted that the second term can in no case equal the first in magnitude, and hence, if it is presented negatively, the subtraction must always give a positive remainder.

69. The merit of having recognized the conception of the word "complete" as a word-corpse belongs to Fritz Mauthner. The reader can refer to the entry *Vollkommen* in Part III of his *Philosophischen Wörterbuch*.

70. Compare in this connexion the corresponding paragraphs in Ernst Mach's *Erkenntnis und Irrtum*, pp. 146 and 159 (Leipzig, Barth, 1926, fifth edition).

71. Compare Eddington, *The Nature of the Physical World*, Chap. X.

72. John Stuart Mill, *Three Essays on Religion* (London, 1874, posthumous). There are two possibilities: the highest being may not be perfectly ethical (to be rejected), or limited in his power (legitimate). *Ueberweg*, Heinze, Oesterreich, Part V, p. 99.

73. Dingler, *Metaphysik als Wissenschaft vom Letzten* (Munich, 1929), pp. 178 and 191, and *Der Zuzammenbruch der Wissenschaft und der Primat der Philosophie* (Munich, 1926), p. 391. Both works derive their doctrines from the so-called central experience, to be understood as religious. *Das Letzte*, p. 199, etc.

74. It would lead us too far were I to attempt to adduce the evidence that philosophy, at least in Germany and the neighbouring countries, is nowadays gradually forsaking the O-foundation and slowly acquiring the tendency to proceed only from S. I have already denoted this phenomenon in another passage as a kind of romanticism. Of the enormous mass of literature on this subject, I consider the work of Professor Robert Reininger, of Vienna University, as decidedly the best, and, which is most important in this sphere, as most reserved in its further conclusions. Here two books are to be taken into consideration: *Das psychophysische Problem* (Vienna, Braumüller, 1930) and *Metaphysik der Wirklichkeit* (Vienna, Braumüller, 1931). In both volumes the enormous labour is evident which the author has devoted to the work, and not only to fashioning a uniform terminology, which has made it possible for the whole system to display a uniform, logical architecture. While I said in the Introduction to this volume that philosophical literature in modern times has unfortunately suffered a decline, I would mention the works of Reininger, especially

the second book, as an honourable exception. This refers entirely to the method of the work and its fine criticism. I cannot say the same of the views and results represented. What is here submitted is a passably consistent S-philosophy, based on the above-mentioned primary experience. With the help of the primary experience the subject builds up knowledge of the external world. All that exists must bear the index of consciousness. There is no unconscious in the true sense of the word. The index of consciousness is so important that, consistently thought out, it is enough to turn every realism into a philosophical system. Consequently the book has to undertake the uncommonly difficult attempt to outline the total image of reality from this single side of the human inner life.

The most important part of the book in respect of "ultimate questions" is, in my opinion, the treatment of modern solipsism (on p. 148), the definition of the Absolute as the sum of inner experience (pp. 338 and 395), and the rejection of the reality of time (p. 47). It would take me too far if I were to set forth here all that pleases me in the work of Reininger. The concluding chapter (p. 402) is acutely thought out, though it diverges from the views presented in these pages. Besides this I especially commend pp. 9, 15, 18, 25, 27, 65, 71, 77, 83, 89 (particularly important), 101, 108, 116, 144, 158, 163, 265 (note), 273, 290, 317, 327, 333, 360, 379, 385 (par. 3), 391–392. Of course, there are passages which I find rather distressing, especially pp. 357, 369, and 375; also pp. 363, 393, 395, and 397. The passages cited here certainly seem to go too far. With regard to the hypothesis of the existence of the external world, medieval authors should not be quoted.

75. "*Si quis dixerit Gehennae ignem non esse ignem, anathema sit*" (Swinden, *On the Fires of Hell*, London, 1727, p. 129. This old essay contains a series of relevant passages). Compare also St. Augustine, *De civitate Dei*, 21, ch. 1–9; Minutius Felix, *Octavius*, ch. 35; Horberry, *Enquiry concerning Future Punishment*, London, 1744. Concerning hell-fire, see also Dallaeus, *De poenis et satisfactionibus*, Amsterdam, 1649, IV, ch. 7, IV, ch. 9. Thomas Aquinas, *Summa suppl. quaest.*, 94, 1, has an especially valuable citation relating to this subject.

76. Compare Deussen, *Geschichte der Philosophie*, Vol. I, Part II, p. 134. In Brihadaranyaka-Upanishad four times (*neti-neti*), especially p. 143, par. 4.

77. Compare Müller-Freienfels, *Metaphysik des Irrationalen* (Meiner, Leipzig, 1927). The whole design of the book defines the Absolute as a synthesis of S + O. Compare especially pp. 52, 121, 198, 306 et seq. (especially p. 307). Parts also of pp. 374, 394, 420, and 456 et seq.

78. Compare Mauthner, *Das Ichgefühl ist eine Täuschung, Kritik*

*der Sprache* (Meiner, Leipzig, second edition, 1926), Vol. I, pp. 650–669, especially Vol. I, p. 661; *Philosophisches Wörterbuch*, Vol. II, pp. 154 et seq. Compare also Bertrand Russell, *Analysis of Mind* (London, Allen & Unwin, 1921); "Knowledge by Acquaintance and Knowledge by Description," in the *Proceedings* of the Aristotelian Society, XI, 1911.

79. *Consistently*, of course, monistic Idealism cannot be worked out. (Compare Reininger, *Metaphysik der Wirklichkeit*, p. 369.) From the last chapters of this work it is plain to see whence the primary experience, or condition of consciousness, originates. To these considerations the whole of the last part of the work, beginning at p. 376, is devoted. It is granted that the so-called reality of experience cannot be the Ultimate; it would be only a part of a more comprehensive reality. The only kind of reality known to us as characterized by its psychical components need not be the sole kind of reality (compare pp. 267 and 387). It is conceded that there may be still another kind of reality, which may be described as to the "*ego*-free" kind. The Absolute in particular must be *ego*-free. Then what is not *ego*-free is "*ego*-related," and what is related is relative and not absolute. We shall say more about this in the discussion of the Absolute. It is also conceded, in respect of the S-philosophy, that there may be still higher, more embracing realities than that known to us, the reality of experience conditioned by our own consciousness. Towards the further solution of this question three possibilities are conceded: (1) Either the primary experience of the subject is derived from the things-in-themselves; or (2) there is an absolute *ego* in the sense of Fichte; or (3) God is conceivable (*Das psychophysische Problem*, pp. 275 and 281). All three possibilities are rejected. Especially correct and logical is the rejection of the second possibility (*Metaphysik der Wirklichkeit*, p. 390; compare also Mauthner, *Sprachkritik*, I, p. 665 et seq.). Here, of course, is was not difficult to prove the incorrectness of Fichte's opinion. If, viz., we adduce a concept through pure speculation, this concept is not therefore bound to exist, and the universe will certainly not be ordered in accordance with it. This can easily be proved in respect of the absolute *ego*. But the short paragraph in which the highest being and its possibility are repudiated, with regard to the impossibility of a theodicy, is one of the most logical and of course one of the boldest passages of the whole book. (Compare Heinrich Maier, *Wahrheit und Wirklichkeit*, Vol. I, pp. 248–252.) With the rejection of the first possibility, namely, the auxiliary hypothesis of the thing-in-itself, we cannot of course agree. We believe that the intellectual possibility of the *ego*-free reality, which is conceded in Reininger's book *Metaphysik der Wirklichkeit*, p. 387, and the admission that the problem of the origin of the primary experience must be insoluble, and that the problem of the "just so

existence" of this universe does not permit of a satisfactory solution (p. 375), is only saying in *other words* what we have said—namely, that there is a "cause" even though it is entirely unknown. But in other respects a consistent S-philosophy raises a whole series of difficulties. Consider only the long passage section on affinity (p. 32 et seq.). The whole question is in our opinion a spurious problem, which vanishes at once if the difference between primary experience and the rest of the psychic life is less emphasized. On the other hand, the S-philosophy, from Descartes to our time, most readily admits the whole field of psychical reality to the naïve realism so inexpressibly despised in the physical world (Maier, I, 511). The difficulties of affinity appear most clearly on p. 260 of the work *Metaphysik der Wirklichkeit*. We find a similar attitude in those passages in which the reality of time is rejected. Of the individual *ego* it is indeed explained that it would be an actuality if it did not correspond to a noun but to a verb. If, nevertheless, it designates a "timeless actuality," it is from our standpoint difficult to understand, because the sole moment of communication created by our *ego* for the whole of the inner life can only be the "conscious" memory. And this memory is just that actuality, that verb. What is left of the actuality after the suppression of the time-moment is just a point, an atom, really a nothing. An *ego* without memory, a timeless *ego*, would be scarcely imaginable (see p. 58 et seq.). From our standpoint the time-concept in particular shows very plainly the difficulties to which the over-valuation of the subject and the primary experience must lead. There are stages of development which connect men of our culture with the animal, the little child, and the savage. Only later does the so valuable—at first passive, then active—reflection, with its whole series of stages (p. 32 et seq.), enter into the scheme. If for the lower stages it is advantageous to work with neither the idea (logical concept) of time nor with the time-feeling—and this advantage can be best perceived in the animal happiness of these lower beings who acquiesce in the primary experience—these intellectual stages must never be rated too highly. That deeper reflection over the time problem cannot mean much happiness for the subject stands to reason, but from this consideration no conclusions can be deduced for the theoretical side of the problem. From our standpoint the second paragraph on p. 62 is the most gratifying, where, in spite of the elsewhere generally proclaimed ideality of time, "an inseparable connexion between the being of higher consciousness and the time-concept" is admitted. In paragraph 3 of the same page the antinomy at least of the time-concept is conceded.

Besides the difficulties here enumerated, the so-called "thou-problem" comes into consideration, which must be unpleasant enough to every S-philosophy, since it must force it into inconsistencies. If

one can assert that "there is only the individual psychic in the sense of the *ego*-like from the standpoint of central contemplation," it is very difficult to avoid solipsism (in spite of p. 35, par. 2, sentence 3). I should not care to decide whether epistemologically the alleged solipsism of to-day is better than the so-called "pure" solipsism (*Das psychophysische Problem*, pp. 43–51).

A further difficulty in the consistent working-out of monistic idealism is the complete disappearance of the boundary between dreams and consciousness in the waking state. The S-philosophy, from its standpoint, must concede the index of primary experience, hence also the index of the highest reality, to dream experiences. (Compare *Metaphysik der Wirklichkeit*, pp. 282, 321, and 365.)

80. From the epistemological aspect this standpoint, of course, cannot be refuted, even though it leads to solipsism. Here other methods of explanation and refutation must be employed. (Compare Mauthner, *Sprachkritik*, I, p. 669 et seq.; *Worterbuch*, III, p. 453 et seq. Compare also Müller-Freienfels, *Tagebuch eines Psychologen*, p. 187; Sigmund Freud, *The Future of an Illusion*, p. 91 et seq.; and others.) There are also innumerable authors who represent the realistic standpoint.

But because an epistemological proof is impracticable we must diverge from this method, and to a certain extent we must deliberately risk the error of confusing the epistemological *ego* with the empirical *ego*. The attempt is justified, because reasons which can be adduced against the absurdity of solipsism must be derived from the spheres in which they are found. We are fully aware of this methodical defect. On the other hand, we see in this methodical confusion, which is necessary, a defect of our human intellect. Epistemologically the empirical standpoint is on the whole lower and less methodically justified than the noetic. But the validity of this relation is not universal. There are situations where such an estimate of the hierarchy of the individual standpoint cannot be consistently made. The absurdity must be refuted. If thereby the method suffers it is regrettable, but this second, somewhat complicated pathway must not on this account remain untrodden. For there remains to us only the second possibility of making peace with the absurdity of solipsism. It is interesting to note that in arguing against Berkeley, in the seventeenth century, the epistemological method was deliberately rejected. Such an attempt at refutation is specified in Eddington's *The Nature of the Physical World*, Chapter XV, Reality and Mysticism.

We grant that our S (*ego*, our inner life, consciousness, self, *Atman*) is still a very indefinite concept. On the one hand, the primary experience is indefinable; on the other hand, the rest of the relevant thought-forms can only be sketched, but not quite accurately placed within their boundaries in respect of similar con-

cepts. An ever so logical analysis will not help to surmount these crags. Reininger, in his *Metaphysik der Wirklichkeit*, p. 43 et seq. and 393, and in *Das psychophysische Problem*, p. 75, differentiates (1) the primary *ego* of the primary experience; (2) the empirical psycho-physical *ego*; (3) the epistemological *ego* without concrete content; (4) the whole *ego*-related reality, concentrated round and in the *ego*. Even if we methodically and clearly distinguish these four kinds of *ego* from one another we do not escape the difficulties. The primary experience is a sterile conception. In the rest of the *egos* the boundaries fluctuate. Here, as we have just said, we must intentionally bring about a confusion of standpoints and consider the "psycho-physical second *ego*" from the epistemological standpoint. Other philosophers (Ernst Mach, Cassierer, Mauthner, Deussen, to name only a few) make other distinctions in this sphere. But since a very great subconscious and subjective colouring always plays its part in such arguments, we cannot escape a certain inexactness of division. For these reasons a confirmed empirico-critical philosopher cannot recognize the primacy of the S-standpoint or look for the Absolute only in S. (Compare Reininger, *Metaphysik der Wirklichkeit*, p. 397, and the first six lines on p. 393; also *Das psychophysische Problem*, pp. 266–271.)

81. Maier, *Wahrheit und Wirklichkeit*, I, p. 520; II, p. 511.

82. Jaspers, *Psychologie der Weltanschauungen*, second edition, Berlin, 1922; Helpach, *Nervenleben und Weltanschauung*, Wiesbaden, Bergmann, 1906; E. Wechsburg, *Zur Psychopathologie der Weltanschauungen* (*Zeitschrift für Neurologie und Psychiatrie*, Band 102, S. 322 f., 1926); A. Herzberg, *Zur Psychologie der Philosophie und der Philosophen*, Leipzig, Meinert, 1926; Lange-Eichbaum, *The Problem of Genius*, trans. Eden and Cedar Paul, Kegan Paul, London, 1931.

83. Compare pp. 126, 296 et seq.

84. It is perhaps necessary once more to emphasize the significance of the proposition that for us human beings there are only two paths to the epistemological criticism of the Ultimate at our disposal. Both paths compel us, as has already been mentioned, to make a renunciation, even though they may prove to be passable. And what one has to renounce in every case is simply that part of knowledge which in the opposite world-view must methodically play the first rôle. If we examine more closely the nature of the things which we have to renounce, it is soon clear that by the materialistic method the reality of the primary experience, or our self, has to be renounced; by the solipsistic method the renunciation extends to the reality of the whole external world. The first renunciation should not press upon us too heavily. It is a relatively small one. For example, if we indicate the primary experience by the letter *p*, and the external

world by the letter $q$, then $q = \Sigma\infty - p$, or nearly $\infty - p$, hence certainly $q > p$. The first renunciation would indeed be intolerable, even if one sought to veil it by turns of speech, such as "the whole *ego*-related reality" or "embedded in consciousness." It is well to observe that $p + q = \Sigma$ (collective sign for everything that there is in any way, S and O included). One might even better write the equation $p + q + \Theta = \Sigma$, with emphasis on the absence of the third term. The contrary relation of the magnitudes $p$ and $q$ might be represented something like this, as if on an infinitely large imaginary plane a very small superficial circle were cut out of the infinite surface. The size of the circular area cut out ($p$) is almost exactly nothing, compared with the infinite plane which surrounds that circular area on all sides ($q$).

Yet a second comparison obtrudes itself: there is a singular relation between the ellipse with the equation $b^2x^2 + a^2y^2 = a^2b^2$ and the hyperbola with the equation $b^2x^2 - a^2y^2 = a^2b^2$. The hyperbola is to a certain extent the infinite unlimited antithesis of the finite limited ellipse. Of the hyperbola we see only two small fragments, the beginning and the end. The infinitely large middle portion we do not see at all. One would be almost tempted to imagine the hyperbola in the spherical Einstein space which forms the universe and at the same time contains it. Let us take it that the hyperbola begins before our eyes and proceeds on and on through the whole spherical space, and somehow returns behind us. It would seem like an enormous elongated ellipse. We have introduced the Einstein spherical space in order to develop the idea to its conclusion. Here indeed the hyperbola would be like an "inverted ellipse," it would not only be very long, and would not only not return in a circle, but it would run directly into infinity, and would not allow itself to be "grasped." The comparison of the two curves illustrates the two renunciations required by the two epistemological methods. The inexpressibly small elliptical curve symbolizes the microscopical section mentioned above; and beside it we see the infinite second component, which was likened to the hyperbola. It is evident that the renunciation of the primary experience, or the nearly microscopical S of the ellipse, must not be considered equivalent to the renunciation of the infinitely large O of the hyperbola. The inner relationship of the two curves, which comes to light in the nature of the equations, has the effect of simplifying the case. All the more clearly do we see the purely metaphorical character of the whole connexion. We must omit the remaining inner aspects of the problems for the sake of simplicity; they have already been discussed in the text above.

85. Compare Jeans, I, p. 210: "The combustion of a ton of the best coal in pure oxygen liberates about $5 \times 10^{16}$ ergs of energy; the annihilation of a ton of coal liberates $9 \times 10^{20}$ ergs, which is

18,000 million times as much. In the ordinary combustion of coal we are merely skimming off the topmost cream of energy contained in the coal, with the consequence that 99·999999994 per cent of the total weight remains behind in the form of smoke, cinders, or ash. Annihilation leaves nothing behind; it is a combustion so complete that neither smoke, ash, nor cinders is left. If we on the earth could burn our coal as completely as this, a single pound would keep the whole British nation going for a fortnight, domestic fires, factories, trains, power stations, ships, and all; a piece of the coal smaller than a pea would take the *Mauretania* across the Atlantic and back."

# CHAPTER X

# DYSTELEOLOGY AND IRRATIONALITY

## 1. GENERAL

CONCERNING the law of causality little has been said hitherto. This law constitutes an enormous advance over free will and the mania for miracles, mythologies, and mystical doctrines of all shades. The notion that there is no cause without effect and no effect without a corresponding cause, that everything is bound by an iron causal nexus, is a majestic thought, of which humanity may well be proud. Causality is a gigantic principle in which we may comprehend everything that happens in the external world, and also in our inner life.

The law of causation may be compared with the principle of the conservation of energy. It has been assailed just as fiercely as the idea of the material structure of the world. Especially in recent times it has been thought "modern" to make reckless attacks upon this principle, which is so important and fundamental for our understanding of the universe. In the almost romantic attitude of the present day people are inclined, even in natural science, to speak of an indeterminacy. The attacks upon causality ought really to be discussed almost as we have just been discussing the attacks upon matter. The aversion to the causal comprehension of nature may draw its nutriment from different subconscious sources; but it is certainly based on the not yet wholly suppressed thirst for miracles and predilection for magic, which, unhappily, have made some headway even in very high circles. But it could not have attained the dimensions which it has now assumed unless certain scientific theories had given it some assistance. Nowadays, in fact, it looks as though the generally valid law of causation of everyday life, and perhaps of naïve realism, does not always retain its validity on very close scrutiny. Generally speaking, we can do no more than establish a sort of regularity in natural events, which is allied with a certain probability that this or that ought to happen and probably will happen, but need not

*always* happen. For the quite small and the very smallest components of matter a sort of law of indeterminacy is valid; which, when regarded from a distance, reveals a tendency towards a probability, and not the traditional law of causation.(86)

But we should certainly be going too far if we were to reject the law of causation as such, even though there are experiments which refute its application in the *strictest* sense of the word. If the validity of a law is constantly confirmed anew, for thousands of years, by the everyday experience of millions of human beings and by the countless experiments of exact science, and if, nevertheless, on the microscopical examination of the same law, certain deviations and indeterminacies become apparent, the law must not as yet be rejected as a whole; it must simply be more cautiously and generally stylized. In this connexion there is such a surplus of scientific observations that we can hardly venture upon a general restatement of the law of causality in the old, familiar sense of the words. We may, however, be thankful that critical intellects in the ranks of the scientists—just those who would have the best right, following the results of their special branch of research, to cast doubt upon the universal validity of the law of causality —see no reason for rejecting the general concept of a regularity in natural events.(87)

I believe that the critical philosophy of the present day has no occasion, on the basis of physics, and especially of the quantum theory and certain of its results, to abandon the clear and precise image of the law of causality in favour of romantic and indeterministic (in plain English: arbitrary and miracle-loving) attempts at explanation, and so lose itself in the inaccessible thickets of a modern obscurantism.

Even if we cannot as yet fully elucidate this still obscure region of thought, we may express the hope that the now somewhat widely disseminated view of the untenableness of the law of causality as such may soon give way once again to a more circumspect interpretation of the universe.

According to our conception, in the sensualistic world-picture the law of causality is hardly assailable. The case is

otherwise, however, if we dissect the law epistemologically "from above." Then we plainly see how hoministic the principle is, despite its magnitude. Above all, the word "law" is not really appropriate. Every "law" is a disguised anthropomorphism. Further, neither *cause* nor *effect* nor *causality* is is really a noun. Neither the cause nor the causal nexus has any kind of "substance," since this, indeed, in general as in particular, does not exist. Our substantival image of the cause is once more analogous to our substantivally represented *ego*, and to something outside us, which is represented by us in the sense of this *ego*. Of the objectified cause what has already been said about substance in general holds good. Further, in every causal relation there is something negative. The relation is not an "obedience" to law but an inevitability. This inevitability is a concept which says approximately: the contrary of the view asserted is unthinkable. Causally something happens the contrary of which cannot happen. The impossibility of imagining this contrary, the impossibility of grasping it at all intellectually, is inherent, of course, only in ourselves. This contrary, nevertheless, exists and proceeds from external experience. Men thought long ago that a dead man lived somehow as a living person, that he could rise from the grave and move about. Only the long experience of generations taught them that this was not so. The reasons for the psychological impossibility of thinking of a dead man as "living" lie, of course, outside us. They reside—if we really wish to express ourselves with caution—in certain positive and negative regularities of events.

There are far more such regularities than we suspect. To discover new ones means—perhaps quite indiscreetly—to discover a new "law of Nature." There are countless regions and innumerable problems through which we cannot steer our way, because hitherto we have observed no regularities.

If in a definite series of events, A B C . . . it appears to our senses that after B only C can follow, this regularity soon becomes for us an inevitability. This C *must* always follow B, or a B *must* precede every C. In the profoundest sense of the word we do not *know* why it happens thus, but we conclude,

from the intellectual impossibility of holding a contrary conception, that it cannot be otherwise, hence it must be only so. We indicate this state of affairs by the verbal sequence: B is the cause of C. Examined more profoundly, the state of affairs appears something like this: it appears that B and C are not, as it were, two individual things; that they constitute a duality only in consequence of our momentary interest of observation; that at bottom they are one and the same. Doubtless a fundamental *identity* is present where causality appears to us. This identity is of course a higher stage of human thinking. That identities are dormant where we think to observe dualities, and that an alleged causal connection can be reduced to a tautology, is an epistemological recognition analogous to the establishment of the thing-in-itself, and its corresponding appearance, in the sphere in which absolute matter or absolute intellect had formerly been assumed. This identity is just as neutral and colourless as the thing-in-itself; its comprehension, however, does not make such high demands on our powers of representation as the always completely inaccessible realm of being-in-itself.

Causality is always connected with the notion of time. Its sequence is not reversible, just as the time-series is not reversible. Since identity can be substituted for causality, whereas no substitute conception can replace the notion of time,(88) the latter appears less hominstic, and we can well understand the observation of Hume and Mauthner, that causality is the personification of the time-sequence.

As we ourselves do something, as we ourselves are the cause of something, so anthropomorphically we postulate the cause as a general concept. Our attention grasps certain phases of the time-sequence and sets them in causal relation, after the analogy of the individual *ego* and its activity. There exist accordingly changes in the time-sequence, ante- and postcedents. (I wish intentionally to avoid the term "consequence" in this verbal sequence, since I fear its secondary meaning, which is inapplicable here.) If regularities occur here, then by the repeated observation of them the notion of necessity is forced upon us. Perhaps we are near the truth when we

maintain that we feel the "long" temporal identity in respect of regularly recurring changes in our intellect as causal. The philosophical notion of causality stands in closer relation to the scientific notions of energy than any "non-vacuum" of the sensualistic world-picture has ultimately proved to be. This, with regard to its spatial content by far the lesser part of the total universe, this nothing or almost nothing in the inanimate spatial and temporal vacua of the universe, is at least potentially animate, or possesses aptitudes for life in the sense of the term "sub-life" employed by us in another connexion. Ceaseless happenings and changes are the content of this life. How these changes are brought about, and how anything happens at all, are for the perceiving subject to a certain extent parallel, for the observing subject capable of perception. The epistemological concept of the subject corresponds to the psychological consciousness, which according to natural science represents a concomitant phenomenon to physiological processes which, having arisen in the observable external world, proceed therein, and reveal their component parts. The consciousness is the principal weapon of a cell-state in the struggle for existence, its mirror, in which, ill or well, the external world is somehow reflected.

From the parallelism of the consciousness and the environment, which we have symbolically compared with this reflection, it follows that through the observation of different regularities we arrive at last at the conception—even though negative—of compelling necessity.(89) The realm of the "in-itself" is of course closed to us for ever, and the pursuit of it leads to spurious problems, but the appearance appertaining to it is, at least on a small scale, parallel with us, and hence we are in a position to observe the events around us, in the realm of the small and the middle-sized, and rationally grasp them, and, as long as we remain on the surface, to understand them. The symbol of this partial if superficial comprehension is our causal principle, which is abstracted from the sensualistic world-picture—and which, of course, must be subjected to a speculative criticism. On a small scale it is perfectly adequate. In the middle domain we can make shift with it. In the higher

regions of knowledge it leads to spurious concepts. To the universe it is not applicable. The cause of the conception $\Sigma\infty$ is a pure fiction. This proposition can be extended by the view already cited elsewhere: that the human intellect suffices only for individual things and for the lower abstractions, but cannot grasp the universe at large. This incomprehension corresponds, metaphorically, with the circumstance that we hold the external world as *not* parallel with our inner life. But this negation is apparent not merely in respect of great magnitudes. It is even more evident in respect of depth of comprehension. We remain always only on the surface. There are, especially of late, many thinkers who conceive the whole space-time universe as it appears to us as merely the surface of an Unknowable, and liken it to the ripples on the surface of a deep ocean. After all, to the question "how" the human intellect can reply in many ways. Many connexions of changes and mutual relations can be established and understood. As regards the questions "what," this is completely impossible. Perhaps this explains why there is no substance, why the so-called categories are an anthropomorphic defect of our intellect; perhaps every question as to the "what" is a spurious problem. I at all events should not favour the asking of such questions, as has become so frequent of late. Naturally, if one is unable to find substance in the depths of the external world in which a sort of corporeal after-taste is always inherent, one seeks to grasp the world simply as if it were of a spiritual nature and a subjective character. We know even less of the alleged "spirit" and the spiritual nature than of the corporeal. But at all events in the corporeal comprehension of the external world the control of other observing subjects comes to our assistance. In proclaiming the subjective character or the spiritual nature of the environment—by no means the same thing—we have to dispense with this confirmatory control, and are completely dependent upon our uncontrollable sensations. The view that the surrounding world is of a spiritual nature contains an even cruder anthropomorphism than the belief in substance. Substance is at least a sublimated concept. The spiritual is always only the dim, confused sensation of our own *ego*-feeling. I

would also warn the reader against perceiving the structure of the external universe as if it consisted merely of a mathematical formula. This view, advanced lately by Jeans, would confound two standpoints: *we* grasp nature best, of course, with the help of mathematical formulae, just because we reduce it, by eliminating other standpoints, to the pure quantitative moment. But although it can best be comprehended mathematically, we cannot maintain that Nature herself consists merely of mathematics. Mathematical comprehension is our subjective key to the knowledge of Nature. If we cannot know Nature, we can at least introduce some method into our superficial observations. Mathematics is only a further step towards the depersonification of Nature. Primitive man saw in Nature merely his gods. That was the mythological standpoint. Later he progressed to the sublimated mechanistic standpoint, which still believed in the existence of matter in the metaphysical sense. That we have now grown more discreet, that we now trace a merely mathematical picture of the external world, does not alter the fact that we still remain on the surface. Even the mathematical world-picture is still only a *picture*. It differs only in the degree of abstraction from the older world-pictures. The mathematical conception of Nature corresponding to our mode of thought is an abstract simplification of the phenomenal world. To raise it to the principle of an alleged "in-itself-existing" world, to maintain that "in-itself" consists *only* in a mathematical formula, would be insupportable arrogance.

It must be emphasized that causality, as it appears to us, is not always so *simple* as it may seem at the first glance. We have already mentioned that, epistemologically regarded, it is only an identity. From the sensualistic standpoint, strictly speaking, indeterminacy, a probability provided that it is seen from a certain distance, appears to us in the familiar form of a necessity, and possesses for us the compulsive character which we are so ready to imagine. I should like to elucidate what has just been said by two examples: Consider a large number of atoms. We know that according to the recent findings of physics atoms disintegrate according to certain

laws, hitherto unknown to us. In an accumulation of two milliards of atoms one atom must disintegrate within a certain time. Which atom will it be? What atoms will be its immediate successors? We might perhaps believe that that particular atom would disintegrate soonest which had previously suffered some mechanical damage to its structure, and was somehow overtaxed by heat, or collision, or the like. But in the present state of physical science this cannot be asserted. Now it seems to us as though some sort of *fate* would decide which of the atoms should disintegrate and which not. As a matter of fact, the disintegration of atoms seems to occur entirely without cause. Atoms are exposed to similar conditions, and yet one perishes earlier, another later, a third never (that is, not within a perceptible lapse of time). Hence the process of atomic disintegration seems to us in some way indeterminate, not subject to the ordinary compulsion of causality. So, within limits, the matter appears when seen through the magnifying-glass of a close microscopic observation. But if we imagine the matter as occurring somehow on a large scale—for example, the destruction of atoms in the sun in the course of a long period of time—we can quite comfortably say that this disintegration is in proportion to the bulk of the solar mass and the time-duration under consideration. Measured in large periods of time, if great masses are considered, the destruction of atoms proceeds in the ordinary causal sense. So many millions of atoms will assuredly perish just as our physicists have calculated beforehand. Thus the behaviour of the atoms on a large scale can be causally understood and mathematically defined. To-day it is the individual cases that seem to us indeterminate and withdrawn from the law of causality.

For this reason many modern investigators repudiate the law of causality and regard it as an inexactitude, a methodical error, to adhere to it at all. I venture to maintain that it would be a crude error entirely to dethrone the law of causality on this account. We will grant that it is, like everything we think, only part of our picture of the external world. But our experiments are still too inexact to enable us to state the true reason of the eventual non-disintegration of atoms. We can, however,

very well imagine a phase of the evolution of physical science in which we shall grasp the reason why many atoms must perish earlier and many later. For the present we do not know this reason. Only our momentary lack of knowledge is to blame for the fact that we—or at least some of us—believe that a kind of destiny, or something of the sort, must be invoked by way of explanation. Maxwell's daemon,(90) for example, belongs to this category. For me all kinds of fate, change, daemons, gods, supernatural powers and the like are merely the expedients and conclusions of perplexity, in the sense of the good old conception of Spinoza: *asylum ignorantiae.*

I am, however, not so optimistic as to think that we shall sooner or later establish the principle of causality, in its old exact form, throughout the whole of Nature. We shall sooner or later succeed in understanding the disintegration of atoms. But there will assuredly be countless other observations from which the coefficient of inexactitude will never be eliminated. Inexactitude and probability are wider conceptions than necessity and compulsion, which we have perceived as the content of the law of causality. Nevertheless, I believe in a more general and broader comprehension of the law of causality in the future, which, of course, in regard to our imperfect intellect and the inexactitude of our sensual perception, will always offer only a probability, never a certainty.

In order the better to explain this, I adduce a second picture. Let us imagine that two thousand men are standing in a great square in some capital city, watching some sort of spectacle. Suddenly a panic breaks out: there is danger from fire, water, or some other cause. If we consider them from close at hand, all these two thousand fortuitously assembled men imagine that they possess a sort of freedom of will. This means, in other words, that they can do as they wish. But what will happen? If the danger is really great and apparent they will one and all take to flight in panic. If there are narrow exits from the square in which they are assembled they will fight for these exits, and tread one another down in order to gain precedence: as has often been the case, for example, when a theatre has caught fire.

Let us imagine that among these two thousand men there is by chance one man possessed of suicidal intentions. He will perhaps wait until the fire devours him, or a terrified bull gores him. Then a philosopher, one of our modern repudiators of causality, will come forward and maintain that humanity's impulse of self-preservation is not a generally valid law, that men have free will, and illustrate his curious theory by the fact that only 1,999 have fled; there was one who made light of the deadly peril, and whose free will was so strong that he consciously preferred death to deliverance.

What shall we answer to this? If we positively knew that the one man intended suicide, and could absolutely prove this conjecture, we should have refuted our adversary's opinion. But this proof can only very rarely be produced. The champions of free human life will stick to their assertion, and the existence of the alleged suicide will be reason enough for these lovers of the miraculous to adhere to their opinion. For us, however, the case is quite clear. We can maintain that the moment life is in danger the vast majority of men will react to this danger by flight. One little exception proves nothing; seen from a distance it is finally all one whether 1,999 or 2,000 men fight for life. Theoretically we can test a man's inward mind and prove the intention of suicide. The case of an atom which perishes or does not perish is identical with the objective human problem. The atom will certainly have its reasons for doing this and not that. Subjectively, the case is different, because the investigation of the "inner motives" of an atom is a much more difficult affair.

Summarizing, we can say: we take for granted the presence of the law of causality in the naturalistic or sensualistic world-picture accessible to us. We have no doubt of its universality. We admit an occasional probability where formerly complete certainty was presupposed. Epistemologically, causality appears as the identity of two or more apparently independent phenomena. We shall not assert that causality projects itself into the metaphysical world of the "in-itself," because in these regions we refrain on principle from forming any judgment.

## 2. CAUSALITY OF THE ORGANIC

However, the causality of the organic constitutes a quite peculiarly difficult subject.

At present a conflict is in progress between the so-called vitalists and the mechanists. The latter explain organic life simply on the basis of physical and chemical processes; the former argue that in explaining organic life one must have recourse to the recognition of other elements. Whether these mysterious additional requirements of the vitalists are called dominants, entelechies, or *vis vitalis*, their arguments always introduce a new unknown. I have more than once engaged in this conflict, and I repeat that the introduction of a new conception of a new unknown magnitude does not in the least facilitate explanation. The organic processes are not only more complicated, but as a matter of fact they sometimes proceed otherwise than in the case of simple inorganic substances; but perhaps this is due only to the present state of our knowledge, or lack of knowledge, and many things will be explained by the intellectual labours of the future. On the other hand, we are much less critical regarding this branch of knowledge, since biology is a much younger science than physics, and since our own persons are sometimes the objects of observation. And where we ourselves are concerned we do not willingly abandon our old anthropocentric standpoint, but think we have the right to lay claim to a special situation.

The old anthropocentrism is, of course, not so easy to overcome. If, however, we somewhat enlarge the conception of the living by extending the validity of the so-called chemical and physical laws to living matter, or grasp at new super-concepts, which in some way efface the boundaries between the animate and the inanimate, we shall at least partly overcome the factual difference. If we smash a stone to fragments with a hammer, there exists the cause A (the use of the hammer) which evokes the effect B (smashing the stone). This is clear to us. If a spermatozoon fertilizes a female ovum, the extremely complicated process of the growth of a small organism commences,

first of all, in the uterus, and then proceeds outside of it; and little causes have exceedingly great effects. It is as though the small cause A (the irruption of the spermatozoon) did not produce the single effect B, but as though instead of B there was a gigantic algebraical formula, with brackets, and again brackets, and as though this stupendous complex of effects (the origin and growth of a complicated animal or human organism) functioned as the effect of the small cause A. Or: a dynamite explosion may level a complicated structure to the ground. The simple explosion destroys the complicated bracketed expression full of totals, products, quotients, and powers. If this results in a *destructive* way, at all events in the world of the inorganic, we are not in the least surprised. If, however, it happens to some extent constructively, and in the world of the organic, we cannot suppress our astonishment. Man is for men a stronger motive for astonishment than inanimate Nature. He regards himself as Heaven knows what sort of miracle. He ought rather to marvel at the sunrise and sunset, the stars, the crystals, and indeed at most of the phenomena of Nature; he ought almost to wonder that anything exists at all, or rather, that anything at all should appear to exist. But this he does not do. We marvel only at ourselves. But the most astonishing thing is that we marvel mostly over the constructive activities of Nature, and those that advance mankind. The destructive, lethal activities which ran counter to us we take very lightly. Concerning this, to the best of my knowledge, very little has been written. On the one hand man is full of anthropocentrisms; he builds castles in the air, and constructs fantasies in his own image, and insists on believing in them. But if he finds something in the real world which helps him to live, he does not seize upon it as one favourable exception amidst the thousands of natural forces which are hostile to him; on the contrary, he is filled with astonishment, and does not know what to make of it. Most probably he seizes upon this one favourable exception, exaggerates it to the point of universality, and bases thereon his religious conceptions. He sees the one favourable thing, overlooks the cold and inhospitable sea of tribulations and dangers

—and the myth of a kindly Providence becomes almost the common spiritual property of humanity.

The genesis of life fills man with unwonted respect: that is, the genesis of protoplasm. He would like to find a sharp division of some sort between the animate and the inanimate. However, even if he does not find it he rejoices that a temporary connexion between the two worlds, a bridge from shore to shore, is not yet found, not yet established. A second such division, which of course is much smaller, is the absence of a direct transition between ape and man.(91) And in the empty spaces created by these divisions men set up their gods and idols, which to-day have become somewhat modernized, and are called entelechies and dominants. But they still form an *asylum ignorantiae*. It is only a few years ago that men began to dissect corpses, and to occupy themselves with chemistry, physiology, and biology. Because in these few years they have discovered the fact that life depends on the existence of chemical elements, on their combination and solution, and that nothing living and nothing psychic can exist without the appropriate material substratum, and hence that life is part of Nature—that it can be compared, for example, to magnetism or radio-activity—and because they have not yet discovered *everything*—because, for example, in the year 1936 we are not able to create protoplasm artificially—they are quite ready, by all sorts of curious aberrations, to demolish this logical, causal *Weltanschauung*; which, however, as we have already seen, is not the highest conceivable stage, but which represents an enormous advance over the older indeterminisms.

Here for once in a way it is possible to speak quite candidly; though in the majority of such writings the reader is expected to draw his own conclusions and to some extent to read between the lines.

A few years ago all was still shrouded in the veil of an ignorance which, regarded from a higher standpoint, was most amazing. We have only to read a few of the fables or legends of the age. The *asylum ignorantiae* was an enormous ocean, from which here and there small islets emerged. For every such islet which men raised up out of the sea of ignorance

a pyre was prepared for the unfortunate champion of enlightenment, upon which the poor heretic found a sorry end. The islets grew and joined on to mainlands. To-day we have, in the place of the former all-embracing *oceanus ignorantiae*, only mere little ponds and puddles. But since the World War there are many at work among us who even now take pleasure in this *asylum ignorantiae*, and maintain it artificially, so that it shall not quickly disappear. Is it not a great marvel that after a mere two or three centuries of scientific activity we already know so much? But the infantile imaginations, the atavisms, are still powerful, and men still delight so in superstition that they bind themselves to it wherever they can. To-day, unfortunately, astrology, occultism, anthroposophy, and so on, are as flourishing as they were centuries ago. With the great mass perhaps it cannot be otherwise. But the fact that the outgrowths of such aberrations should extend even to university chairs—though there, as a precaution they make use of a strange, high-sounding, scientific nomenclature—shows how little we are removed from the persecution of heretics and the burning of witches.

To men, their own life and the life of the higher animals seems full of purposefulness. Purposefulness opens the door to theism, and within its framework all kinds of superstitions find place.

Men think: we experience the sexual libido, *in order* to propagate; organisms have claws *in order* to defend themselves; they build nests *in order* to provide a lodging for their young; and so on. On the same basis the teleological proof of God once flourished, and there was much talk of a so-called Providence.(92) To-day, instead of the teleological ocean, we have merely small puddles of water, and these only for such as wish to see them. If we only knew how to estimate correctly the observations which we already possess, and could always draw the proper conclusions from them, we should already be rid of many errors.

Polar foxes are not white *in order* that they may not be seen in the snow; but those of them that were not white, and were conspicuous by the deviation of their colouring from that of

the snow, have perished. Birds of prey do not possess talons *in order* to . . . but those which had no talons perished. Incalculable numbers of animals and species of animals have died out. Formerly there were far more species than there are to-day. Our knowledge of fossils is most imperfect. Is it not an extraordinary chance that a horse (for example) long extinct should be preserved in mud for a million years? Is it not an extraordinary chance that we men should have found this animal, long extinct and preserved in mud, by a special concatenation of circumstances? Do not many animals of the primeval ages still sleep their death-sleep in the subsoil, which will never be discovered by the spade of the geologist? The great reptiles of the Mesozoic are extinct. Countless other living creatures are extinct, creatures of species of which we know nothing whatever. All the apparently purposeful devices of the animal body permit of some other explanation. We underestimate the millions of years in which the living creatures evolved; we underestimate the enormous hordes of those which have not survived, "Nature's failures." Of the monstrous multiplicity of living creatures which Nature engendered only the minority, indeed, were able to survive over a long series of years. Either they had to adapt themselves thoroughly to the surrounding conditions of life, or they failed to do so; which was more frequently the case, and so they miserably perished.

Man imports his own *ego* into his views of the external world. "We have no suspicion how anthropomorphic we are," said Goethe. In our transactions, in our activity, in our verbs, there inheres always a sort of purpose. The intellect possesses memory. Therewith, remembering the past, it constructs the future, and transfers the knowledge of causes accumulated through its experience to the domain of the future. Since we conjecture the rule of causes in the future also, we proceed in accordance with the intellect if we recognize causes in the future. We usually designate them, of course, by the name of "purpose": that is, causes in the future, final causes, *causae finales*. Only man and the higher animals possess these final causes. The less intelligent we are, the more we import our

*ego*-sentiment into Nature, the more we personify it. For this reason we think we perceive purposes in the external world which we have only come to know through experience in our inner being, and which we ourselves have translated into the external world. All religions, and the majority of philosophical systems, arose from this instinct of our intellect, which in its infantile phases referred the purpose—only present in its own activity—to the external world, transferred it to the external world, and finally believed that it had rediscovered it there. Consequently the world was conceived and understood as a realm of final causes, which of course could only be introduced into the world by an alleged super-intellect, by a Providence.

In order not to linger too long over this theme, I would remark that it is precisely the vitalists who might be expected to see things in such a light, since in them the atavistic propensities to behold the external world as full of final causes, and as the field of activity of a man-like super-intelligence, have not yet been overcome. For the rest of us, who see and recognize the stupendous multiplicity of connecting moments between the animate and the inanimate, there is no special category of an organic causality, which from the outset must be of another character than the causality of the inanimate. We concede that there may be a "totality-causality"—to avail ourselves of the term employed by the celebrated philosopher, Hans Driesch—by which we understand a continuity, so that to one cause may correspond a whole series of effects which may be compared with an entire bracketed expression, a polynome.

The "totality-causality," however, in respect of the *other* causality, is not completely other, *toto genere* a different kind of causal continuity; but a causality that fits into the superconception of universal causality; and there exist between these two varieties only differences of degree.

This, of course, may result in differences of opinion within the framework of the corresponding individual sciences which will be rather difficult to bridge over. After all, it is rather a subjective question, whether the difference between the animate organism and the inanimate mass appears *great* enough

or not, or indeed whether this difference is so great as to make it possible to speak of fundamental difference. I think I can say, however, that regarded from a higher standpoint there must be, for both kinds of causal connexion, and also for the processes in organic as well as inanimate matter, a common super-concept, which, in a regularity of the course of natural events, can be established in both the (at the first glance) different realms of Nature. The difference between inorganic chemistry, in which simple formulae correspond to simple chemical processes, and the exceptionally complicated formulae which express combinations of organic compounds, seems to me no greater than the difference between the two kinds of causality. I believe that, generally speaking, one does not need to think otherwise, and that one may regard the difference of the two causalities as no greater than the vast difference, so easily expressed by mathematical symbols, between the small molecules of inorganic and the large molecules of organic matter, which are so easily summarized by their accompanying indices of magnitude. Men would only have to free themselves from the powerful emotional component which has influenced them in order to behold the organic, in which they ultimately see themselves and the soul-life which they so greatly over-estimate, for ever in a new and peculiar light. Is this act of deliverance not possible—is the human bias in respect of these spheres of knowledge so great that a clear judgment cannot be formed?

It need not be emphasized in which direction this impossibility of freeing himself from an old inherited sentiment must lead man. At first, of course, the newly introduced or resurrected vitalistic terminology seems quite harmless. But presently, above and behind it, looms the spectre of an age long vanished. That this is really so will be at once evident if we consider how many allusions to the apparently long-extinct ecclesiastical dogma of the eternal pains of hell are to be found, for example, in so modern and so eminent a vitalist as Hans Driesch.(93) The little lakes and pools of a specious teleology are evaporating. Drought first fell upon them three hundred years ago, and an ocean of teleology is

already dried up. Man underestimates the millions of years of organic evolution, and the monstrous numbers of abortive, extinct living creatures; and many other things besides.

Only under cosmically adjusted conditions have world-bodies time to form living creatures. What must have happened on earth before the first amoeba arrived or the first Neanderthal man appeared? We are not perfect, but we are pleased with ourselves because we have not known anything better. Nevertheless, we are adapted only to the conditions of our environment, our little earth, its gravity, its atmosphere, its temperature.

The same process has been enacted countless times in the universe. It is still being enacted at the present time on countless planets in the universe, and it will probably persist into the remotest future: at the end of the pyrarchaic period (94) the time began when organisms were able to live on the planets. After a while these conditions vanish, and the organisms with them. For a milliard years a planet prepares itself, until its surface is a possible abode for organisms; for a few million years—quite a short space of time in comparison with the gigantic period of preparation—living creatures can exist; then for billions of years the planet moves through the icy universe dead and desolate as a petrified graveyard, after having for such a short space of time afforded a dwelling-place to living creatures.

But we do not take this into consideration. We do not perceive the enormous empty spaces between the heavenly bodies; we see only the stars. We do not perceive the billions of cubic kilometres of rock and fire; we see only organisms, and above all ourselves. The organisms mean more for us, in spite of their minuteness, than everything else. We marvel at life. We do not marvel at the inanimate abysses, but at the spatially insignificant islets of energy. Of these islets only an infinitesimal number are animated; but we marvel at just this little amount of life. There might of course be *nothing*—indeed there is almost nothing. The thought that there might be nothing cannot be thought to completion. However, it cannot be suppressed. Nevertheless, we must still maintain

that the present state of affairs, that there is after all something, however little, is the more probable as against (95) the sheer, consistent negation of all being. The "potentially living" matter need not even evolve into the cell-states which without intellect would be unable to exist. How few of them there are in the universe!—but it is no miracle that they are to be met with here and there. For if they did not exist at all, this would be a rigid and complete negation, a special case amidst innumerable more probable cases, among which the reality surrounding us is numbered. If nothing at all existed it would be an even greater miracle.

Let us rather resolve no longer to marvel at anything. For if we were to wonder at all we should be unable to do anything else. Plato, and among the moderns Richard Müller-Freienfels, to say nothing of many others, have spoken with enthusiasm of the need of wonder in the observation of Nature. I see in this only a concomitant psychic state, which has nothing to do with observation as such.

We have established that it is possible that in the midst of the vacuum islets of energy should form and persist, and that upon them cell-states should evolve. Under certain circumstances it is *not* possible that they do *not* develop. Just as water on cooling below zero must change into ice. . . .

We said just now that the case might be conceivable in which *nothing* existed; but it is not really conceivable, since a little something lost in the monstrous Nothing would be a more probable case than a perfectly homogeneous and empty Nothing. The proposition that there might possibly be nothing at all may have its validity in the sensualistic world-picture, under the fiction that there was only O but no S, that for once one need not take the perceiving subject into account, and this fiction, in the above connexion, seems to us merely economical.

From the epistemological standpoint, directly it is incumbent upon us to take the perceiving S into account, the proposition of the possibility that nothing might have existed is thus impracticable, since it always assumes a super-reason, which would somehow have to exist outside the universe as a whole,

outside O, however great we conceive it, in order to form this judgment concerning this O existing outside itself. It even presupposes a good deal with regard to the O which is to be judged. If there were only an S, and outside this S an empty O, a nothing, could the proposition be logically conceived? It also presupposes that there is an S, and that it could know other, non-empty worlds, other and otherwise constituted O's, which it could then compare with an empty universe.

We become more and more deeply involved in unanswerable questions. We see very clearly that the experiences of daily life, which when applied to individual appearances and individual things are really serviceable, cannot be applied to the universe as a whole. The proposition, for example, that $p \infty = q \infty$, could have no validity, even though we were able to prove a hundred times over that the equation $p = q$ is absolutely correct. But we learn something more on this occasion. Our sensualistic world-picture is erected upon the methodical fiction that we can eliminate the perceiving S. This fiction also proves to be highly economical. In practical life we all proceed according to its schema. And when we cease to philosophize, and return to everyday life, we can no longer manage without it. But directly we try to rectify the methodical fault, in order to restore our S to its rights, we see the impracticable nature of the larger proposition; the universe as a whole, considered in a more thoughtful, more actually epistemological manner, will not entirely fit into our calculation. Our intellect, and perhaps every conceivable intellect, since every S must be pitted against the corresponding O, must fail miserably when the riddle of the universe has to be solved. The materialistic or solipsistic fiction, to which we are compelled to resort sooner or later, provides no serviceable solution, since in both cases the fictive character is too apparent.

In conclusion we may say something like the following: In the sensualistic world-picture our intellect—in so far as we do not enter into the problem of the space and time infinity—does really good service, and leads us to practically useful and biologically valuable results.

In the epistemological world-picture one must of course

concede that all judgments which presume to say something about the so-called great neutrals lead to *impracticable thought-formations*. The case becomes all the more complicated, in that we do not move only in linear progress, but in various divergent directions, so that in these regions we can express no clear and final judgment. Above all, the relation of S to O, with its consequences, is insoluble by our human reason. But this insoluble problem is by no means the only one. In its higher latitudes, as has so often been said, the universe is simply not parallel with our intellect. Its inner meaning is not to be solved by the observer standing outside it. This does not mean that there may be another method which will not fail where the rationalistic method must fail. All mysticisms and intuitions are subjective illusions. Nothing remains for us but a clear and resigned recognition of our ignorance.

It need not be specially emphasized that in the so-called metaphysical world-picture, whose conceivability on principle was conceded in the introduction, and towards which we steer as the real Ultimate, only unknowableness prevails. Here there are no more grey or white spots, but only a uniform deep black. We are still evading the question as to whether this black differs from nothing, and we shall later have an opportunity of examining this question more closely. We have recognized this task as a spurious problem, whose solution can lie only in the pure transcendent.

It is only with a sort of discreet and resigned caution that we accept the intellectual possibility of this world-picture, where instead of any sort of problem and any kind of knowledge only the blackest agnosticism must prevail.

I repeat, there could be even *nothing*. We must not, however, be surprised that in a little section of our perceptions there is something, and in a very small section even something complicated and living.

### 3. THE PURPOSELESSNESS OF THE UNIVERSE

After this digression we return to our theme. We maintain: outside of humanity there is no purpose; only, we men and

beings with intellects similar to ours can, by virtue of our memory, project the past into the future, allowing the causes of the past to become the causes of the future. I burnt myself on touching an oven door. I touch it no more, since I remember that I once suffered pain on touching it. Since of necessity I must avoid every kind of pain, I cannot do otherwise than avoid touching a hot oven door. If I did not act thus I should feel pain again, from which I wish under all circumstances to safeguard myself. This whole reflection may be abridged in human thought and human speech: I do not touch the oven any more, *in order*. . . . For "not touching the oven" I have a cause transferred to the future: a *causa finalis*, as the Scholastics say. It can be proved, of course, that this cause does not lie in the future, that it exists only in the past, in my memory. It may be objected that this is a sophism. Here our subjective impression decides, which somehow forces a purpose upon us in our transactions. Intellects have memories, therefore they proceed in a purposeful manner. By purposeful action man preserves his life in the struggle for existence. It would be a bad look-out for us if we should all lose the faculty of memory; before long we should all perish; or at least the great majority would perish.

The intellect is the cell-states' means of attack and defence. It is the most effective weapon at their disposal; those that did not possess it died out.

It may be objected that behind all this there must stand some sort of *élan vital*, some kind of mighty and terrible power which wills that life shall be, that it shall be constantly maintained, that the complexity of the molecular combinations in the universe shall not cease. The intellects which give the cell-states the power of memory, placing in their hands a mirror of their environment, must continue to exist. By no means, we object. A fine *élan vital*, which since the endless periods of time which have now elapsed should achieve nothing more than that in our metagalactic system merely a small vanishing fraction, some $1/10^{100}$, is animated! Moreover, life lasts only for a short span of time amidst the aeons of inanimateness. Life is a very rare guest in the depths of the universe. One

might almost say that in accordance with the greatest probability one could expect it *not* to exist; nevertheless, as an exception the rare case occurs in which it must be; for since in the greater number of cases the complicated chemistry of protoplasm could not exist, so again there are conditions under which it is not possible that it should not exist. But here throughout natural causes are in question, which quite well explain the reality of things. The supernatural *élan vital*, the supernatural, animating divine and cosmic power, must obviously, assuming its existence, have arrived at absolutely different results of animation, and would not have been satisfied with the small amount of actual animation.(96) Rather does it seem to me that the differences in request of life and energy—perhaps even in the empty spaces—are characteristic of *our human knowledge*, and that the boundaries of these three realms are in reality not so sharply defined as they appear to us.

I repeat once more that there is no purpose in the universe outside ourselves, and where we think we ought to assume purpose it is only an illusion of our intellect. And the existence of an intellect without brain and protoplasm has not yet been established. Our instinctive error consists in this, that we look for a purpose, and are sometimes convinced that we encounter purposefulness in the external universe. Purposes, however, exist only in human speech,(97) in the human verb, in our anthropocentric world-intuition, beyond which most human beings do not progress all their life long. Most of us still imagine the forces of Nature and all the processes arising from them as things which in some way correspond with our own *ego*-feeling. Purposefulness in the external universe owes its existence to the human frog-perspective. Humanity perceives something like the following section of world-history: I grow, become cleverer, stronger—at the summit of life I philosophize —while the negative half of human existence—sickness, failing powers, death—is little considered. One cannot speak of a meaning or purpose of the universe or life from a higher than the human point of view.

We human beings have had, as it is the fashion to say, luck or good fortune. From primitive animals, from worms and

fishes, by way of the Neanderthal men, we have evolved into the present lords of Nature. We are lords of the earth. Certain micro-organisms, which still stand in the way of our attaining complete mastery over the earth, will assuredly be sooner or later exterminated. At the tempo of modern progress brilliant possibilities still await us on earth. In spite of mutual accusations, which for easily comprehensible reasons continue vocal, we suffer less and less. We have fine houses, warm stoves, comfortable beds, baths, anaesthetics, and many other things. Certainly from century to century there is less pain in the world.

But think of things from the standpoint of the animals: the extinct giant lizards of the Jurassic period as well as the pitiful animals enslaved by us at the present time, the innocent victims of greed, covetousness, and vivisection. What is the meaning of life for mice and rabbits? To be martyred for the health of man? Then is everything really only for man? So we say. Yes, we are so egotistical, so unrighteous, that we even invented the fairy tale of a sacred Power which decreed that everything was only for man, that the plants, the animals, the stones, and indeed the stars, existed only for his sake. In the first chapter of the first book of Moses the sun, moon, and stars exist only that man may "make the calendar."(98) From year to year, from millennium to millennium, the little phrase "in order to" acquired meaning in human speech, and purposefulness played a greater and greater rôle in human thought. In more modern times the purpose in the external universe begins to suffer a decline. The phrase "in order to" perishes in the external universe in direct ratio to the growth of human intelligence. The less "in order to" we see in the universe the more mighty is our spiritual ascent.

Man is superficial and inclines easily to the object of his desires. If he would only reflect, he would notice every day a thousand circumstances which from his human standpoint would make life and the universe appear quite purposeless. A man bruises himself, makes slips of the tongue, forgets, loses useful objects, blunders—how many times a day are these petty experiences repeated in the life of every individual!

Every such phenomenon we explain quite easily from the causal standpoint, but certainly not teleologically. Why should it then be purposeful that these petty vexations should dog our steps, that the proverbial pinpricks of life should sting us so repeatedly? Generations of thoughtless men found help in proverbs: "The ways of the Lord are past finding out"; "Everything serves some good end"—in its consequences a very mischievous proverb—or "Without God's will no sparrow falls to the ground," and so on. Besides these harmless little sayings there are of course less harmless doctrines, like that of metampsychosis in India, the doctrine that we deservedly suffer for sins not committed by us, that is, for sins committed in previous existences, and the Christian doctrines of the primal Fall of man, and the depravity of human nature, which we, from the very first, could certainly do nothing to prevent; of the human inability to do good (even the sublimest virtues of the heathen are only brilliant vices), and of God's permanent urge to do nothing but punish poor pigmy man.(99)

These are only mischievous sophisms, but no one who expounds the universe optimistically, who does not see the immeasurable amount of human and animal suffering, and does not correctly estimate it, who permits himself to be dazzled by our brilliant if often merely apparent progress, who takes no account of the horrors of sickness and pain: no one —I repeat—who is smitten with such myopia can be *good.* Pain, sickness, age, and above all death, abundantly suffice to demolish the belief in the purposefulness of the universe. How was it ever possible to reconcile the creation of so miserable and pitiful a humanity with the hypothesis that the Creator is to be conceived as the ideal of goodness! On the one hand the yearning for eternal life is implanted in man, and on the other, even from the womb he is infected with the germs of death. Is not death in its simple, crude form, as it exists for every living creature which is aware of it and cannot escape it, which shrinks from it and hourly approaches it, already something so frightful that it alone suffices to refute all the talk about Providence and the good Heavenly Father? (100)

And the generations preceding us did not merely evolve the conception of purpose from their inner life, and transfer it to the external universe; did not merely observe badly and generalize rashly and foolishly—they went still farther: the notion of purpose was humanized, distended to a gigantic size, and raised to a world-principle. Foolish and fanatical, frequently even wicked, and above all infinitely limited men, have frivolously constructed absolutely incredible alleged laws from their dreams and visions. They proclaimed it as the supreme law that the world was guided by a manlike Being, whose qualities were derived entirely from human nature. Nothing higher than the human ingredients and qualities of this alleged supreme Being ever occurred to them, and since they were merely mentally elaborating their own experience, it naturally could not occur to them. Human speech therefore reached its climax in its adjective. Man knew, of course, only human qualities, which he valued in his fellow-men, and which, after all, in consequence of the peculiarity of language, were very easily enhanced at will, and could be expressed in the superlative. The almighty, omniscient, and supremely good God, and the indescribably pitiful conditions which prevail in this earthly vale of woe, pain, sickness, age, and death—and note well that things were of old a thousand times worse for man than they are to-day: the existence of the first is not consistent with the presence of the second. In these days every secondary school pupil knows that the generally affirmative judgment A is impossible if within its domain a specially negative judgment O is encountered with the same S and P. Such an example of logic is here displayed in a classical form. Pain, sickness, age, and death are certainly present, therefore the existence of a Being with the three qualities—supreme goodness, omniscience, and omnipotence—is impossible. For if it can avert evil and will not it is not in the highest degree benevolent: if it knows nothing of evil it is not omniscient: if it knows of evil and is supremely benevolent, then it is not omnipotent, for then it would avert the evil, but cannot. It would be logical if after such a short analysis of these matters people were to cease to speak of them. But one would have to know little

of human beings if one believed that logic could rescue them from their fantasies. These seem to have their roots in the depths of the instincts, which are still, alas, much stronger than so-called common sense.

To believe in a metaphysical optimism in the face of the misery of our existence is not only a stupidity; it argues a boundless crudity of temperament, a conscious disregard of and contempt for the boundless sum of human and animal suffering.

Yes, these sufferings and these pains, this pitiful vegetating, this is human and animal life. This is actuality, this is reality. *Tat twam asi*, the Indians would say; all things else are phantoms.

Of course *our* view of the universe also is powerless to help man. We suffer in the same way, even if we know how things are ordered. There is no world-purpose and no meaning in life, and everything that men formerly alleged that they knew about them was a fairy tale. But in a certain sense we are more at ease with our interpretation of the universe: I know that I am a pitiful being; I know that my neighbour too is only a poor fellow; I know that we both want to live, that we both desire happiness, that in a little while we shall lie dead in the earth. But at least we don't deceive ourselves. "We are both poor fellows," I say to my neighbour; "nothing can save us from our melancholy fate, but for the few years allotted to us on earth we will not embitter each other's lives." For life might be so much more tolerable if at any rate human malice were eliminated from it. The older world-view argued thus: "How gloriously and expediently everything in the world is directed! Why should I not hurt my neighbour to my heart's content, since the good God in heaven will make it up to him? Of course it is a sin, but I shall do penance, and I and my neighbour will both be saved." Good will towards a neighbour, in the older world-view, is properly a sheer inconsistency. Man must exert himself to win heaven. Virtue is not the end, but merely a means thereto. In other words, then: one does good out of selfishness, in the most reprehensible spirit of self-seeking egoism, not from any higher motives.

The reason why the human standpoint with regard to purpose in the external world is usually so erroneous and distorted, is that we see human life only in the light of the few generations preceding us. Let us for once convince ourselves of the boundless waste of life with which Nature operates. How many poor worms and insects perish after a heavy shower of rain! How many fish die when a drought sets in, how many eggs remain unfertilized! Generation after generation learns anew, labours anew, acquires experience anew. Men who have won their precious experience so hardly die to no avail; everything sinks with them into the grave, and the experiments of Nature begin over again. In order to form for ourselves a correct picture of human life, we need only reflect that without air, without food, and without water man cannot live, that he must sleep, and needs to restore his tissues; that the most necessary organs for the preservation of the species are placed in immediate proximity to the excretory ducts. Let us consider merely the peculiar logic of the earlier centuries of faith, which believed in God and the purposefulness of world-history. With what contempt they regarded cohabitation, the sole way appointed and ordained by God by which the human race was to be preserved upon earth. If we could expect logical thought from those ages, this would indeed be an impossible attitude. To-day, of course, we understand this inconsistency psychologically, but merely as a good example of the purposelessness, the dysteleology, which prevails in the external world. How many men thought at that time—how many men think to-day? The extraordinary intricacy of the cell-states, which arose by degrees in the course of millions of years, and accommodated themselves to external influences, is utterly inexpedient, a source of cruel disease and death. Death is necessary. What arose must perish. There is no punishment for what sins may have been committed. Life simply has a beginning and an end. We understand this with regard to other living beings, but with regard to ourselves we have imagined so many fairy tales, which have led us astray, and certainly have not brought us happiness. And in this urge to darken our own existence with stupid old wives' tales, this inability to see our

life clearly and distinctly before us, we behold one of the greatest inexpediencies of this universe.

Death is inevitable, and yet must it appear to us and to all living beings that are aware of it as the grossest dysteleology that we are all animated by a will to live, which instinctively resists the end, and the thought of being at some time no more. What is the meaning of the "will to live"? The cosmic inertia maintains—humanly speaking—complicated chemical processes in the cell-states. They are accompanied by consciousness. Consciousness is animated by the will to live. It is the life-condition of the cell-states, their means of defence, without which life would in the long run be impossible.(101) But unfortunately one cannot just go on living. The simplest experience tells us that inanimateness is the rule in Nature; life is the exception. We perceive in this an irrationality, that there is a will to live, that it dreads cessation, although it must know that it is impossible not to cease. If we had made the world ourselves, we may believe that we should scarcely have linked the will to live with the impossibility of realizing this will. We may believe that we should somehow have reconciled the two opposites. This would be rational. This would be the duty of any super-intelligence which laid claim to be called ethical. That this, nevertheless, is not so proves the non-existence of an ethical super-intelligence; but this has already been said above in other words.

Of the purposelessness prevailing in the external world we can accumulate proof upon proof. In his book *Lebt Gott noch?* (pp. 204–231), Blum has collected a whole series of such proofs. In practical life we encounter a thousand inexpedient things, to which of course we seldom give any attention, but which rightly considered and understood testify to the inexpediency of the world. All pain, all misfortune, is dysteleology. If the ethically highest good were combined with the supremest power, evil, life, and pain would be impossible.

But these are only quite trivial hominstic speculations. Existence brings with it pleasure and pain, life and death. Of the former a little, of the latter much. It is the same in little things. We often experience in little things, in individual

instances, a *happy ending*; but in life as a whole, never. Here life follows quite another course.

But before we go more closely into this we must concern ourselves rather more closely and logically with the conception of the *whole*, in order to guard against eventual misunderstandings. To begin with, it is not quite certain whether we ought to employ the conception of the whole in this connexion, whether we have not formed it rather hastily and according to habit.

In what does the whole consist? It can be perceived as a plurality of living beings of different species, different sizes, and different intelligence, which react differently to the surrounding world, have their different experiences, and possess dissimilar concepts of their environment, which lead to dissimilar world-pictures.

This plurality is found co-existing in a spatially transverse section, as also in a temporal longitudinal section, in the past and the present, which permit observers to deduce the future. Analogically with our *ego*-sentiment, which appears as a unity, which experiences itself as a unity, we conclude, and had already unconsciously concluded on the animal level, that this diverse and many-coloured multiplicity, this kaleidoscope of colours, tones, and noises, of animate and inanimate creatures which surrounds us, this enormous battleground of alleged *ego*-sentiments and vital aspirations, this total powerful plurality, also somehow forms a *unity*. This unity is born of intellectual economy. We summarize diversities and differences, from the standpoint of our momentary attention, in greater totalities. Why then should and could we not summarize these totalities in a single super-totality? Psychologically it is understandable that human longing has created, for its orientation in the world, a mental image which is expressed by the words "unity," "the whole," "the world," "the universe." We need it urgently for our orientation. But what is the whole, apart from its being our mental image? There is a tremendous amount of anthropomorphism in this. We have formed the conception of the whole in accordance with our *ego*-sentiment; we postulate in some way that the world is somehow as we experience it.

Epistemologically the old objection arises, that the experienced plurality of the living beings and the diverse multiplicity around us is only an appearance. But this experienced plurality is after all closer to the truth, even though it is only an appearance, than the unity which is merely formed psychologically in our minds. Our critical knowledge guards us against believing in the existence of our mental creations. In estimating plurality as an appearance, or doubtfully asking whether it is what it seems, we must not simply give assent to our anthropomorphically formed notions of unity and the universe. That which at any time can be empirically ascertained and verified is nearer to the truth than the results of speculation, however well we may understand their psychological origin.

But cannot the anthropomorphical origin, the anthropomorphical components, be eliminated from our conception of the unity of the universe? Yes, it is possible, if only we proceed with impeccable method. Above all, we must distinguish accurately between the notions of *totality* which can be applied to individual things and individual living creatures, as compared with their partial structure, which must here be disregarded, and that of *unity*, as we understand it when attributed to the totality of being, to the universe. In respect of the notion of the unity of the universe we can proceed in a highly abstract manner. To begin with, this notion can be comprehended merely as a numerical unity. If I combine a series of terms in a single sum, and if I then include all the values thus obtained in a super-number $(a + b + c) + (a_1 + b_1 + c_1) + (\mathrm{A} + \mathrm{B} + \mathrm{C}) = \infty$, I have done nothing illegitimate in respect of the anthropomorphic tendency of the human mind. I have simply invented an extremely abstract, purely arithmetical formula for the universe. Very often this arithmetical conception is perfectly adequate. In a universe which is almost entirely unknown to us the arithmetical abstraction which comprises both known and unknown may even be highly economical.

But when we consider that this will no longer suffice, and want to know something about the qualities under consideration, all sorts of assumptions of an empirical nature must be

conceded before we can form any speculative concept of totality. Such totality-concepts, for example, are—the solar system, consisting of homogeneous matter and having but one origin; but also higher systems, provided that cogent, controllable, and empirical data can be adduced in support of their homogeneity. This can be asserted much more frequently, when there is a question of smaller than cosmic images—the earth as a planet, individual continents, individual seas, islands, lakes, states, cities, morphological unities, which are observed in the formation of mountain-ranges, and so on. Of course, in all these totality-images, as a result of our experience, there is much more "unification" than in a purely mathematical treatment.

But if, in forming totality and unity, we go *beyond* the anagalactic systems, we must include many hypothetical, and later on even purely fictive moments in our calculation. The unity of infinitely great formations—for example, the whole universe—is always merely fictive. Even in the arithmetical abstraction of the sign of infinity we must not overlook the fictive character of this thought-formation.(102)

If we pass on to the smaller and (in this connexion) ordinary *organic* forms, and test them for their unity, such important empirical facts emerge that we must regard the "method of animation" of our personifying instinct as justified. If I conceive a fellow-man or other living creature, whether animal or plant, as a unity with an *ego*-like character, I am no longer guilty of an inadmissible personification. Yes, here it would be harmful did I lay too much stress on parts of the human body —for example, bones, veins, heart, lungs, and so on—as independent unities in opposition to the whole organism. I may often employ this procedure for methodical reasons, with regard to individual cells of organic tissue, molecules, atoms, and their smaller components. They are not only components of an organic body, but they sometimes play an important rôle as unities, if only as methodical unities, whose unity or totality is merely to be the momentary object of our attention. It must, however, be emphasized that these little unities of a "non-*ego*-like character," which are parts of "*ego*-like totali-

ties,'' are sometimes methodically quite as hypothetical, and indeed fictive, as the above-mentioned cosmic forms of enormous magnitude. The function of totality in the true sense of the word is present only in the *ego*-like, conscious forms. From neither side, whether from above or below, can one speak of it in the true sense of the word. It is merely a matter of taste, or sometimes of philosophical conviction or subjective judgment, whether one ascribes it to the excessively great or the excessively small forms, assuming between them and the real *ego*-like forms merely a difference of degree.

If we regard wholeness or totality from the standpoint of approximation to reality, then the conscious, *ego*-like wholes are nearest to reality. Psychologically the individual S comes first, on the analogy of which the remaining *ego*-like wholes are formed. This distinction, however, is soon surpassed in our systematic O-adjustment by a higher consciousness that the strange *ego*-like wholes which have come into being on the basis of our self-experience and our psychic operations, which can be verified by all perceiving subjects, have just the same approximation to reality, and that the primacy of one's own *ego*-like complex is only an optical illusion, which would lead us into the solipsistic *cul-de-sac*.

After the *ego*-like totalities come the other, to which we may ascribe no *ego*-feeling, but which, on the basis of our experience and general verifiable speculation, are restricted, in their manner of being, in their quality, to a kind of limitation of their totality. For example, with regard to the spherical form of the earth, I am justified in comprising the 1,082 milliard cubic kilometres of rock and magma in a unity. The same thing applies to a table, the Sahara desert, apple-blossom, the human stomach, and so on. This series can of course be continued *ad lib.*

Last of all, of course, come the totalities, which can be delimited only in a quite abstract and purely numerical sense. Some of these have already been mentioned. Among them is the universe, the totality of all things, in which the unity-motive of the concept occupies the foreground, while the fictive already plays a part.

From these considerations it will be evident what our attitude should be to the notion of the totality or the unity of the universe and its synonyms. Our higher intellectual life would be impossible without these mentally economical abbreviations. All super-conceptions, categories, and so on are formed by us in this manner, and are on the one hand the results and on the other hand the pre-conditions of all the higher mental activities. The animal does not form them at all. We shall of course continue to employ them and derive advantage from their use. In all these thought-formations, however, we shall perceive only products of pure abstraction, and shall not revere them as something supramundane, and even divine.

Man must not make the products of his intellectual faculties his idols. He should, on the contrary, be ever conscious of their origin. He should elaborate his own thought-forms carefully, going to work in a logical manner, and clearly distinguishing them one from another. In this respect man has sinned most grievously in the course of the history of human thought. From Plato to the verbal realists of the Middle Ages, man has venerated the super-concepts, or ideas, as they were commonly called, as almost divine.

After this critical excursus let us return to our consideration of dysteleology. That the universe as a whole is not purposefully "organized" we see at least from two examples: (*a*) the circumstance that all *ego*-like living creatures, endowed with life, desire, and the will to live, are subject to the inevitable annihilation of death; (*b*) that all the greater integrations of the life-principle, stars, systems, and so forth, on to which we foist a kind of will to live, though of course only in a metaphorical sense, are also, equally with ourselves, subject to final destruction, final annihilation.

Regarded non-hominstically, this existence of death and life in the universe is only an up-and-down movement of cosmic history, only a matter of changes and rhythms. But in respect of the living beings condemned to death, the millions of *ego*-sentiments, which always want only to live and are yet compelled to look forward to complete dissolution, there is a cruel dissonance.

This dissonance of unpurposefulness does not extend to the higher world-pictures. As regards us human beings, however, it is great enough to make life sad for us in our sensualistic world-picture, and correspondingly to influence our world-philosophy. Here what we have lately said of time and the time-conception holds good. All these things may not extend to the highest world-pictures, but to us earthworms they are giants. . . .

On the whole life is purposeless, though in particular instances, especially in the organic sphere, a certain occasional expediency cannot be denied. This appearance of expediency seemed so important to earlier generations that for them it amounted to the so-called teleological evidence of God. We have dealt with this in other chapters of this book; here it may briefly be indicated that the alleged expediency originated in a false mode of speculation, into which we human beings, with our petty interests, were of necessity bound to fall. We seize upon individual details of life and are astonished that they are possible, that many things in our environment are reciprocally conditioned. But if we take life as a whole, which, as we have seen, we are justified in doing, then where the alleged teleology, and later causality, was found, only identity will be discovered. The great algebraical formula with its many brackets, the colossal polynome of which we have spoken, can be reduced to 1. I have dismembered this identity of my petty perspective too far, and superfluously, just as I have often incorrectly treated as a whole many things which were mutually related. The life of every living creature is, in this sense, from beginning to end, a unity. I myself, my fellow-men, all conscious living creatures experience such a unity. This is nearer to reality than the excessive dissection of the organism, whether in the temporal or the spatial sense.

"Dissection" there must be. But the individual organs and individual cells, the individual stages of life, which mutually condition and help one another, are not idols, nor are the stars and universes idols, nor must the super-concepts and ideas be idols. Their existence as objects which attract our attention must not lead us to conclusions in respect of

their independence, which exists only in laboratory observations.

When the white blood-corpuscles save the life of a man suffering from blood-poisoning by overcoming the toxins, nothing has happened "in order to . . ." A thousand times they succeed, a thousand times they fail. It is just as when a thousand gallons of hot water, mixed with a hundred gallons of cold, result in fairly hot water. If the white blood-corpuscles were not powerful enough, the deadly toxins would conquer. Nature is just as indifferent as the temperature resulting from the admixture of cold and hot water. We repeat: man has an eminent interest in these life-processes; *his own* life depends upon them. He takes too powerful a lens, and magnifies too much. A *too great* magnification may lead one astray. Not as regards the momentary purpose of the observation, but as regards the understanding of the whole.

If we reckon the life of an individual as 1, as a limited "totality" from birth to death, as an identity which comprehends the individual life-processes as a unity, from this standpoint teleology on a small scale vanishes. It exists only for us men with our giant spectacles, which improperly magnify all that concerns us closely. If we ultimately refer the colossal vision of the all-embracing causality to an underlying identity, in this higher conception the mayfly of organic teleology vanishes. It is one of the conceits of the human intellect, as is the so-called free will. All these deceptions arises from this, that our intellect observes the environment from much too close a standpoint.

If I am in a wood, especially as a worm or a frog, and not an eagle, the pines and firs appear to me gigantic, and I cannot see the wood for the trees. I do not believe in the unity of the wood, I do not believe in the unity of the globe. If I am surrounded by the trees of my own intellect, I see events in my own organism from too near a standpoint; I see everything inexactly, distorted, and out of drawing, since I cannot stand back from these events. In this way there arises in me the illusion of the *ego*-sentiment, of freedom of will, of purposefulness in the world-process.

Teleology in Nature, it seems to us, exists in organic life, especially when we consider individual creatures, individual things, and not Nature as a whole. Nevertheless, we have put it under the magnifying-glass, and it has turned out to be an illusion. Subjectively, however, this illusion persists, because we cannot escape from our way of looking at things.

The universe as a whole, with its eternal up and down of circular movements, with its inexpressibly great empty spaces and incomprehensibly long changeless aeons, still appears to us as anything but purposeful, anything but expedient.(103)

The earth will continue to bring forth living creatures for another ten or more million years. Sooner or later, however, they will all perish of cold and lack of nourishment. Even the earth, even the sun and its system, will come to an end. Like unlighted cemeteries they will wheel through the universe for immeasurable millions of years, until they collide with other suns or planets, to which a similar fate has been allotted. Many investigators do not believe in the possibility, or at all events in the regularity, of such stellar collisions. With regard to this we can, of course, pronounce no final judgment. But at any rate there are in the universe conversions of energy, in consequence of which suns and planets shape themselves from planetary nebulae, which later perish, and from whose mass new stars arise in due course. If for the time being we refuse to consider the problem, how new life comes into the dead star-masses, this much may be asserted as probable in the highest degree, that in the course of the remote future new stars and yet more new stars will be formed, whose rise will be described by a future Kant, a future Laplace. Everything is always beginning all over again. The new heavenly bodies, too, will be inhabited by living creatures, which of course will be fundamentally different from the known forms of life. And the new living creatures will act, fight, and suffer. Once more, a purposeless age will pass, until the mental development of these living creatures has advanced so far that they can be regarded as human or anthropoid creatures. Then will begin a long epoch of stupidity, cruelty, and evil, and not until much later will a happier time arrive for the men of these future

heavenly bodies, when the new species and organisms will attain the summit of their culture and their happiness. Not everywhere is such a soaring development allotted to living creatures. Many planets will not be inhabited at all, because they will be either too large or too small to permit of organisms evolving on their surface. Once more death will come. And again, for the third time, a short life and a long *rigor mortis*. For the fourth, tenth, and hundredth time. And so on. . . . Every time all will be different. And we are not the first. Before us, in a limitless eternity, other solar systems existed, other Milky Ways, other universes. Not only universes of the metagalactic order, but probably universes of the five and ten millionth rank. The same thing applies to the time-sequence. Besides us there are numberless other systems, larger and smaller, which revolve in the measureless empty spaces of the universe.

There is much more lifelessness than life, but yet there is some life. . . . More potential life than the real, conscious life of organisms. Little wisdom, kindness, morality, and happiness. Little similarity and parallelism to our own human race.

Can one think at all of a purpose, a meaning in this immeasurable infinity, this almost empty, almost dead, yet always partially filled and animated eternity? Purpose is a human word, a human conception, which arose on a small scale and has done good service, but which does not admit of being transferred to the greater things in the universe. The universe, the totality of being, has for humanity no purpose and no meaning. But to insist at all costs on seeing this purpose means to degrade the spatial and temporal $\infty$ to dependence on the insignificant little worm *Homo sapiens*. Yet the concepts of a meaning or a purpose in the universe are so unfortunately framed, that they cannot be applied if we look away from ourselves. Even if we eliminate the word-sequence "for ourselves" from our calculations, we cannot speak of a meaning or purpose on the large scale. Above all, we have no right to transfer such a hoministic relation as these concepts must be, by reason of their contents, to a "creation" which must appear

to us eternal and infinite, whether or not it is actually so in reality. If we rise out of the sensualistic world-picture and consider the higher world-pictures, we no longer have a leg to stand on as regards purpose and meaning.

If, however, in spite of all that has been said hitherto, and of course quite wrongly, we wished to speak of a meaning of the universe, how should we fare? We ask, what is $\Sigma\infty$ if it has a purpose? Is there outside the $\Sigma\infty$ anything that does not belong to its domain, that lies outside the $\Sigma\infty$ which in consequence can be spoken of as the purpose of the $\Sigma\infty$? Or, since this mental operation is evidently absurd, as outside the $\Sigma\infty$ there cannot be anything else, is it better to say: the purpose is not in addition to the $\Sigma\infty$ but behind it? The $\Sigma\infty$ is only appearance, the purpose lies in the sphere of the "in-itself." Once we begin to operate with the "in-itself" we shall never escape from fallacies. Is not the "in-itself" a spurious concept to begin with? Is it not merely an auxiliary concept? Is not its content unknowable for any intellect? On the other hand, we may ask: does the purpose of the $\Sigma\infty$ relate only to the $\Sigma\infty$ itself, or does it relate to something else? These questions can be continued at will; we do not escape from the labyrinth, and we soon perceive that we shall be so entangled on all sides in the antinomies and difficulties of the conception of infinity that we shall have to admit the impossibility of any judgment in respect of this conception. Yes, we shall be modest, we will consider the possibility of Vaihinger's view, that it is the basic defect of our intellect that it falsifies reality by general conceptions; that it is compelled to make mental images which lead to infinity and eternity, which are not real, but from which, however, we cannot escape.

We have waived the desire somehow to connect purposefulness with the conception of infinity. Here, too, if we are sceptical with regard to this conception, and think instead of $\infty$ merely in terms of "very great" or "gigantic," we cannot approach this magnitude with the conception of a meaning or a purpose. Only he who has no sort of notion what the universe means, spatially and temporarily, can speak of purpose

and Providence. Even the earth is dysteleological. The universe is entirely "beyond" any meaning or purpose.

If one of the starlets of a vanishing solar system forms an organic mildew for a few cosmic moments, which, regarded from a higher standpoint, is manifested as its organic life, this means as much to the universe as the life of a mayfly; indeed, we are nothing, less than nothing in the midst of the infinite, which forms a unity with us only in a certainly very profound but practically highly problematical sense. We may consider ourselves as its parts.(104) As a whole the universe is not parallel with us, but irrational.

That we human beings do not see this is due to an optical illusion: we see the earth as large, we see our life as long, the stars seem to us small, and for us an eventless eternity shrinks to a point.

### 4. IRRATIONALITY

Irrationality and dysteleology are not the highest philosophical concepts. They indicate only relations. They are the expression of a relation of the external world to us observing and suffering men. They are indeed not things-in-themselves; they do not find a place in the metaphysical world-picture; they belong to the sensualistic, or at most to the epistemological world-picture. In spite of this they are among the most important perceptions to which the thinking man can attain of the relation of the outer world to himself. And they are not only of the greatest interest to us theoretically, as mental products, but they also have an enormous importance for the sphere of practical life. There are, of course, profounder orders of ideas, apart from purely theoretical speculations concerning the Absolute and so forth. Even in respect of ourselves there are profounder expressions, but these are entirely academical.(105) Nevertheless, our life is over-towered, over-arched, overshadowed by these two gigantic negations, as by two immeasurable spectres, and for us there is no escape from their gloomy domain.

But it will be necessary to say something more about these two conceptions. Like irrationality, dysteleology also indicates

the incongruence of the universe with humanity. Irrationality is more in evidence in the sphere of perception and thought, but dysteleology in the sphere of sentiment and ethics. Let us first consider irrationality. An enormous number of appearances in the external world can be grasped through our intellectual activity, and for these many different names are at our disposal. We therefore say that they are intelligible, meaning that they are intelligible to us. Among them, for example, are the causal principle, the principle of the conservation of energy, and so forth. But here, where the point at issue is that we observe only qualities and changes, which correspond in grammer to adjectives and verbs, and that after deeper reflection we come to the conclusion that for us the so-called things, which in grammar correspond to nouns, remain completely inaccessible, that we have only appearances, while there must nevertheless be *something*, which is accessible to the perceiving subject merely as appearance—here begins the sphere of epistemological irrationality. To this sphere also belong deliberations concerning the noetic value of the primary experience, the over-valuation of which leads to solipsism, and concerning the value of the sensualistic experience, which, if we do not proceed critically enough, may lead to dogmatic materialism. All false problems and antinomies of the concept of infinity, the problem of S and O, the relation of the psyche to the physis, the questions and contradictions as to the meaning of the universe, and finally, all higher and more general conceptions; above all, the great neutrals, not to speak of the Transcendents, Unknowables, Absolutes, and so forth—all this is partly or wholly incomprehensible to us. We are justified in admitting our ignorance or inability to know in the face of these problems, and in speaking of an epistemological irrationality.

It is comprehensible that this irrationality should be obvious in proportion to the coefficient of *ignorance* in the world-picture under consideration. In the sensualistic world-picture there are many things to which its function is not related. It is otherwise in the epistemological world-picture, where we are fundamentally unable to escape from the admission

that we cannot grasp the true essence of things, and are limited to appearances. In the third, theoretically postulated, fictive world-picture, this is even more obvious. And if the thing-in-itself is unknowable, so of course is its theoretical and speculative superstructure. If the thing-in-itself is a limit-conception, in which light vanishes and darkness begins, then that which is postulated behind the thing-in-itself lies eternally, of course, in the very deepest obscurity.(106)

Nevertheless, in respect of the metaphysical world-picture, which must be imagined as completely transcendent and relationless, we cannot speak of *irrationality*, which always expresses a relation to *us*. There is no bridge to lead us into this world-picture; nothing that concerns us has any validity in the relationless, metaphysical transcendence.

Practically, therefore, there are for us two irrationalities:

(*a*) The epistemological, which consists in this, that for us the theoretically postulated pure O remains unknowable. Here we are defeated at once by this brief statement of the *inability* to know.

(*b*) In respect of the phenomenal world it consists in this, that we perceive and recognize much that is entirely without meaning, order, or co-ordination, or seems to be so; that we are forced to assume that many things would appear otherwise if the world were the work of some kind of intelligence, similar to our own. In respect of this second irrationality, we must still further distinguish:

(1) We may hope that in the future we shall come to understand much which to-day seems without order, and that in many spheres we shall introduce the order now lacking. For example, there is the hitherto entirely incomprehensible gulf between the empty and the full, between dead matter and life, between the animal and the human intelligence. Into all these abysses we believe that in time we shall be able to throw so much light that they will cease to exist as such, and that our knowledge in respect of them may be welded into a homogeneous picture.

(2) But the contradiction that the universe is conditioned otherwise than we human beings expected, by which I am

referring mainly to the impossibility of approaching the universe with moral demands, must in the future become still greater. In ancient times there was no contradiction. By superficial observation Plotinus could still grasp the universe as "cosmos"; the superstitious Middle Ages could comprehend the world known to them as directed by a humanly thinking Providence. As the result of more profound observation we receded farther and farther from the notion that the world is anthropomorphous, parallel with man, and exists only for man. Let us invert a saying of Bacon's: superficial knowledge of the world leads to God, profound knowledge leads away from God.

Summing up, one may say that irrationality in the sensualistic world-picture must lead on the one hand to the avowal of human ignorance, and on the other to the more emotional and more painful recognition that the universe does not respond to human, moral, and other requirements. The first negation may be slowly mitigated with the progress of human knowledge; the second, of a more fundamental nature, must be permanent.

One might perhaps be tempted to speak of irrationality as of a principle. Whether one chooses to do so depends on the sense which we give to the word "principle." If we mean by this word the accentuation of a very general mode of thought, much as we are accustomed to speak of principles in natural science, as of quite generally valid norms, the use of this word in respect of irrationality can be justified. The case is altered if we wish to grant to the concept of "principle" a sort of metaphysical validity or metaphysical background. Here we must be on our guard. Nothing would be more erroneous than to promote a purely generalizing thought-form to a sort of supersensual, metaphysical positive.

We will take the standpoint that in the depths of the universe there exist many different intelligences of which our humanity represents only a special case. To every one of these possible, indeed probable, intelligences something different in the universe will seem displeasing, strange, unparallel, irrational. Even if we grant that the judgments of these hypothetical beings will agree in some things, there is nevertheless a much

wider area in which every intelligence will reveal a separate subjective interpretation, dissimilar from the rest.

We will grant that certain things affect us as though they must present themselves to every intelligence observing the outer world as almost equally intolerable and irrational. It is obvious that by far the greater majority of these irrationalities, which may perhaps have common sources in the longing for individual happiness, the desire for personal authority within the framework of the environment, and regret for the inaccessibility of reality, must appear beyond all measure diverse and manifold if they are regarded from a common standpoint and compared with one another. Hence it may be said there is not one fundamental irrationality, somehow always the same, referring to all cases in a similar manner, but rather a vast mass of irrational-seeming individual appearances, to which we must apply the term irrationality merely as a collective name, without expecting more from this name than we are accustomed as a rule to expect from general conceptions. General conceptions are not real: they merely serve the very human need of orientation in the external world.

If we wish to consider a single instance of irrationality in a rather more concrete manner, we discover a situation which may be expressed by the metaphor, that a straight line and a curve are not parallel. We human beings always want a straight line, and Nature is always curvilinear. We want *one* prime number, Nature wants *another*. But prime numbers have no common measure.

But if our human experience does not agree with reality, with the pure O: if we are not satisfied with the world-picture offered to our senses, this non-accordance is never a principle in the metaphysical sense of the word, but a perfectly harmless otherness, whose basis is not in any way higher or deeper. An otherness which is always more probable than similarity and always represents a more general standard. An otherness which seems to us the more harmless and innocent, the more we are in a condition to disregard our painful human interest in knowledge, in truth, and in the external world.

Thus the alleged principle of irrationality has melted into

a mere more probable indeterminacy, irregularity, disorderliness. Nothing can be otherwise than it is; disorderliness is always more general, more probable, than a uniformity, than an order operating according to our human notions. It would be a monstrous, improbable case if instead of this indefinite irregularity and disorder everything should consist of beings exactly like men. Just as though a thinking triangle or a thinking circle were to expect the whole external universe to consist merely of triangles and circles. Such a case must appear all the more improbable to us in proportion as man is the more complicated in comparison with the simplest geometrical figures.

Also, irregularity is only a human, epitomizing term for a series of observations, among which a definite relation prevails which does not correspond with an expectation. But, strictly speaking, this irregularity does not exist; it is only a human collective name for a great multiplicity of individual things. There are only dissimilar but compared appearances, and the objects presumed to correspond with them. Thus in a higher sense there is neither irrationality nor any principle of irrationality. Irrationality is only a human, summarizing word, an expression for the disillusioned human perception in the direction of the totality of being, in the direction of $\Sigma\infty$. It exists only in our minds; it exists only for us human beings. What is outside man is only an otherness, a difference, or rather, enormous numbers of "otherwise" formed, changeable, different individual appearances, not to be reduced to a common measure.

We arrive at the conclusion that irrationality somehow exists only for us; it is, humanly speaking, a very unpleasant business, for which, however, no one can be made responsible. We must bear no malice because the world behaves irrationally in respect of ourselves. There is nothing left for us but patience and resignation.

Despite this state of affairs, we are still justified in asking the question, what causes may lie at the root of this irrationality.

As we human beings are constituted, we must understand appearances in such a way that they cannot occur without a

presumed pure O, because they form the synthesis of this O with the perceiving S. The thing-in-itself seems to us in a certain sense a concomitant condition of the appearance, even though we are aware of the metaphorical quality in this word-sequence, since we must not without more ado transfer the known causal connection from the sensualistic world-picture to the "in-itself."(107) We must not so far forget ourselves (as we have seen above, p. 224 et seq.) as to postulate a sort of metaphysical irrationality as a basis for the epistemological irrationality. It would be to misunderstand all that has been said hitherto if we were to resolve upon such an unpermissible transfer.

Irrationality resides neither in O, to which we should like, of course wrongly, to transfer it, nor in S, but in their conjunction, very much as though the two basic elements of human thought were somehow unable to tally.

Irrationality in the sense of the unknowability of the thing-in-itself appears to us, then, as agnosticism, which is an epistemological and by no means a metaphysical principle.(108) As to how things look in a room whose doors are closed to us, I can say nothing. "Closed doors" are the symbol of irrationality and agnosticism.

It is perhaps needless to mention that in the more superficial irrationality of *appearances* there can of course be absolutely no relation to metaphysics. Irrationality here resides only in individual things and individual appearances. It is true that the whole prospect of the universe, with its hyperabundance of inanimateness and vacancy, in which we cannot perceive any sort of purpose, has a confusing effect upon us. This is, however, only the first impression. On closer observation, the total view of the universe disintegrates into a series of microscopic processes, which are to be explained individually, and of which the majority can be explained.

The anthropomorphic conception of the universe in religious trappings—in short, theism—or even the still more sublimated deism, cannot explain this so simply. For these *Weltanschauungen* the principle of metaphysical irrationality, which we so abruptly rejected in the above expositions, must be called in to explain

the universe. Indeed, they need more than a principle; they need a person. And since the world-explaining tendency of religions usually includes in itself a moral order, they cannot but have recourse to a moral and immeasurably wise Person, whose existence, of course, excludes all irrationality and dysteleology. If, for example, the universe is ruled by a wise and moral Being, it is likewise wise and moral, and our great denials have no place in it. In this case one must speak of Providence, of the all-wise decrees of the Creator, and so on. If this does not work, if evil cannot be argued out of existence in this way, they introduce into their universe—since principles with them are persons—the spirit of evil. Theistically, irrationality and dysteleology appear as evil, as its premeditation. If a supreme anthropomorphic Reason is the ruler of the world, and if at the same time the world is a vale of tears, then this reason is an *evil* Reason. The most logical course for the theists would be simply to believe in a God who was not good. If, for example, we try to conceive and express the relation between good and evil in the world algebraically, the formula $n - p$ would be valid. $N$ means good, $p$ evil. The formula which would best correspond to our known world would be the inequality $n < p$. The sum of evil is, according to our experience, much greater than that of good, so for once in a way we do not consider how crudely anthropocentric both conceptions are. Strictly speaking, I should never admit a concept of good and evil in the usual sense. If we purge them of their all-too-human dross, so little is left that it hardly corresponds any longer to the old traditional content of these inexact conceptions. In a similar manner one might write a formula for Hell. In this case it would be $n = 0$ and $p = \infty$. Here, of course, irrationality and dysteleology would be in the maximum of their function.

The Christian belief in the Devil signifies, philosophically interpreted, a sort of compromise with the evil in the world, which cannot be denied; with our dysteleology and irrationality, which then, of course, must not bear these names. Mani and Zoroaster went farther than the Christians, having co-ordinated the two principles. If we wanted to do something like this

to-day in respect of the existing world, we should have to allow the evil principle to be greater than the principle of good. Only a boundless sophistry could maintain and proclaim that the good principle is the stronger—indeed, that it is universal, cosmic, absolute. In Christianity, which was burdened by the belief in Hell and original sin, and which condemned all those to whom a special grace of God was not vouchsafed to the eternal pains of Hell, men simply stuck their heads into the sand rather than perceive the magnitude of the principle of evil. All that was maintained in respect of the reciprocal relation of God and the spirit of evil, which was always merely a way out of a difficulty, a confession of the reality, was mere verbiage, which was never thought out to a conclusion and never could be. While the evil spirit was only a way out of a dilemma, there was yet in Satanology a will to righteousness, and indeed a foolish endeavour morally to justify God.(109) But men disregarded the fact that such a justification would be possible only on the principle of parity, which is absent in Christianity. In Christianity the spirit of evil is illogical, for as a creature, and in his subjection to God, he cannot vindicate Him. If it comes to that, the supreme Lord is responsible for his subordinate officials. . . .

## 5. DYSTELEOLOGY

Let us now consider dysteleology a little more closely and exhaustively. We have already said that dysteleology is related to the emotionally accented sphere, in opposition to irrationality, which is related to the sphere of perception. We human creatures long for sensations of pleasure, and therefore conclude that in an expediently ordered world there ought not to be sensations of pain, either for us or for other sentient living creatures. The concrete expression of this fantasy is the religious conception of Heaven and Paradise.

In the world of experience, however, sensations of pain or discomfort predominate. An abbreviated expression for the immense number of such observations, not to be overlooked, which bear the common characteristic that the world is not

ordered for us, for our necessities, for our longing for happiness and prosperity, that it does not meet our wishes, but on the contrary, brings pain, sickness, and death, is *dysteleology*.

We have already shown that there is no dysteleology as such, that it is merely a collective noun for an inexpressible multiplicity of individual things and individual appearances, which one and all follow a course to our disadvantage. It is one of the universal concepts which exist only in our minds, in order to satisfy our need of order. In a more than hominist philosophy—that is, in the profounder regions of epistemology, and in metaphysics—if there could really be such a thing—there can be no talk of dysteleology. It is a residue of the old anthropocentrism, which has been revised by the experiences of the last few centuries.

There is one thing which I should like to point out.

Attempts have been made to introduce purposefulness, which has no place in the phenomenal world, into the alleged sphere of the thing-in-itself. This lower world, so the advocates of such a view maintain, is of course a vale of tears, but it is only a world of appearance. The world of true being, which is imagined immediately as a kind of heaven—the confounding of "in-itself" and "Heaven" occurring, so to speak, by magic—must of course have an absolutely teleological tendency.

I must emphasize the fact that this view is not the original Christian view, in which Heaven and Hell, God and the Devil, had a materialistic, "naïve-realistic" existence. For long centuries men knew nothing about an "in-itself." But as it became manifest that in this world there was no place for the various religious views and concepts, there was rejoicing at the sudden discovery of this new place of refuge. Similar concepts, of course without the old crude purposefulness, are expounded by Paul Deussen in his metaphysics,(110) though he is too much of an Indian to interpret them in the Christian manner. Other allusions are to be found also in Driesch.(111) We can reply to them approximately as follows:

1. By "in-itself" we understand the pure O, unobserved by any S; we are forced to this auxiliary hypothesis by the

consideration that its contrary—that the pure object is *nil*—must lead to absurdities.

2. Concerning this unknowable limit-conception nothing positive can or should be asserted. We have seen that the "in-itself" is not sun-like; it is no realm of light, no heaven, or anything like it, in which positive laws other than those known to us prevail. To believe this would be to relapse into fantasies of the old Christian doctrines.

3. There is a dysteleology only in the sensualistic world-picture, where it represents a generalizing word, a super-concept, an abbreviation, in which countless sufferings of living creatures are somehow contained. In the "in-itself" there is no dysteleology.

4. Attempts to smuggle the Christian Heaven into the realm of the "in-itself" accordingly betray a threefold logical error:

(*a*) a simply negative error of introducing an exuberant thought-form of *positive* content, in no way justified by experience, into a simply negative realm (this would be at once an epistemological error),

(*b*) the error of attempting to introduce relations into a relationless realm of the "in-itself," since Heaven and pleasure can never exist except for some person,

(*c*) finally, the error of attempting to replace a vague, colourless, auxiliary realm of the thing-in-itself by a realistically conceived fairy-tale from the infantile age of humanity, and the crudest anthropocentrism.

We have emphasized to satiety that dysteleology and irrationality are both abstractions from the perceptive world of the senses. And in this everyday world they meet with the fate of all abstract super-conceptions: there are thousands of kinds of pain and innumerable feelings of distress which possess reality as single phenomena; the super-conceptions merely orientate the human intellect. The lamp "ego" throws its light into the darkness.

The universe around us, like the universe-in-itself, is neither teleological nor dysteleological, neither rational nor irrational; it is merely otherwise, irregular, neutral, indifferent, or completely unknowable. The human interest illuminates it. The

greater part of the universe—a great part of our world of sense and the collective "in-itself"—remains obscure. What is not obscure is somehow disorderly; it does not range itself around us as if we were its central point; it is not turned towards us so that we can understand it, so that it may delight us. Only here and there, in our immediate proximity, infinitesimal fractions of the universe are more or less in conformity with us. For this extremely small fraction can be found the corresponding formula, $\delta : \infty$. How far the darkness may extend which our lamp fails to reach, into which its rays do not penetrate, we do not of course know. In another chapter we said that this darkness is not simply nothingness, that light and semi-darkness are not sheer illusion. This is the only thing that we can venture to say critically. But I hope that we have also shown that this darkness cherishes no hostility towards us, if only because dysteleology and irrationality do not extend to its domain, since from a higher viewpoint they have proved to be otherness, irregularity, indeterminacy, and so forth. Should anyone object that we have merely replaced the old concrete superstitions by an abstract negation, we admit that this is so. But is it not already a great advance to have approached a little nearer to the truth? Is it not enough that we have reduced two such gigantic principles to nullity by means of a higher conception, in spite of the fact that we have admitted their validity for us human beings? Of course, if anyone is dissatisfied with these results we answer, modestly and resignedly, that we were convinced from the outset that we could not reach the Ultimate through abstractions of any sort. The Ultimate always eludes us; it does not even admit of the proposition that *something* actually escapes us, that there is *something* which we are really unable to attain, since, as we have already said, even this colourless *something* must be regarded as doubtful from many points of view (112).

## NOTES

86. Above all, the quantum theory of Planck leads us to these reflections. Consider *Wege zur physikalischen Erkenntnis* (Leipzig,

1933). Compare also Jeans, *The New Background of Science* (Cambridge, 1933) and Heisenberg, *Die physikalischen Prinzipien der Quantentheorie* (Leipzig, 1930). The physical term, *indeterminacy*, differs from the philosophical or ethical *indeterminism*. The former presupposes a relative lack of human knowledge respecting the minute structure of matter; the latter is a scholastic medieval conception relating to original sin, etc. Compare Dirac, quoted by Boodin, *Three Interpretations* (New York, Macmillan, 1934), p. 162.

87. For example, we have often heard it said of late that the two heroes of twentieth-century physics, Planck and Einstein, have overthrown the law of causality; that since their epoch-making discoveries it has been superseded. From quotations it emerges beyond a doubt that the two greatest pulverizers of the traditional, the two thinkers who have done most to disvalue the old values, have not shaken the principle of causality, but, on the other hand, that they find the contrary conception erroneous and incomprehensible. Compare Planck, *Where is Science Going?* pp. 143, 155 (the validity of the law of causality for human action); p. 201 (the impossibility of free will); p. 210 (here Einstein is quoted: "the idea of free will in Nature is of course preposterous); p. 202 (indeterminism is a wholly illogical concept).

88. Everything which in the non-sensualistic world can be used in the place of the time-idea—for example, the auxiliary conception, which we have more than once introduced, of a "temperoid"—bears strong traces of its purely speculative origin. It would perhaps be better to employ a Greek letter here instead of this, to us, entirely inaccessible auxiliary conception, in order to remain thoroughly conscious that we are dealing only with a thing-in-itself corresponding to the time-conception, which we employ merely as an auxiliary hypothesis, but concerning whose positive content we must refrain from making any assertion. Hence *this* auxiliary conception *cannot* in any way be interpreted, though we did methodically introduce the concept of identity in explanation of causality.

89. Our conception rests on the basis that fundamentally there is only *one* universe, in spite of the different stages of truth and probability, and the different world-pictures of the outer world that *we* must form for ourselves, and that the S and O standpoints are only two different viewpoints for observing one and the same object. The higher standpoint—to us men, unfortunately, inaccessible—would be the (only intellectually possible) union of these two points of departure. Here the consistent S-philosophy, which cannot be completely harmonized with the O of perception, encounters difficulties which cannot readily be overcome. Compare Reininger, *Metaphysik der Wirklichkeit*, p. 240 et seq., on the doctrines of so-called affinity. Also in Mauthner, *Sprachkritik*, Vol. I, pp. 671 et seq., there are similar passages.

90. Compare Jeans, *The New Background of Science*, chap. VIII, 4.

91. There is also, of course, a gigantic gulf of which scarcely anyone thinks: the gulf between the empty space in the universe and the matter, or islets, of energy. Compare also notes 41 and 50. Here, too, a passage will one day be possible. There is likewise a gulf between the real being and the merely possible, which is also not so easily to be bridged; and so on.

92. Compare the above-mentioned work of the Viennese physician Dr. Blum, *Lebt Gott noch?* pp. 200–239.

93. Hans Driesch, *Die sittliche Tat* (Leipzig, 1927), pp. 55, 76, 86, and 130.

94. Compare E. Dacqué, *Die Erdzeitalter* (Munich-Berlin-Oldenburg, 1927), p. 176 et seq.

95. Compare Reininger, *Metaphysik der Wirklichkeit*, p. 393, and Kiesel, *Wir sehen nur Schatten* (fourth edition, Leipzig, Reclam), p. 319.

96. We find a similar train of thought in George Santayana, *Winds of Doctrine*, p. 107: "Bergson . . . talks a great deal about life, he feels he has penetrated deeply into its nature; and yet death, together with birth, is the natural analysis of what life is. What is this creative purpose, that must wait for sun and rain to set it in motion? What is this life, that in any individual can be suddenly extinguishd by a bullet? What is this *élan vital*, that a little fall in temperature would banish altogether from the universe?"

97. Should the reader wish to learn of this in more detail, compare Mauthner, *Sprachkritik*, I, p. 534, II, pp. 170 and 177, III, pp. 59, 249, 517, 574, 585; and his *Wörterbuch*, I, p. 402, etc., II, pp. 61, etc., 76, 517, III, pp. 72, etc., 507, 515, etc.

98. Compare Wightman-Nunn, *Science and Monism*, p. 202, etc. (London, 1934).

99. Perhaps the very acme of what could be written on this subject is the work by Thomas Molina, *Das Leiden im Weltplan*, published in Vienna (Tyrolia-Verlag) in 1929. In this book the whole question of human suffering is treated from such an inhuman, such a dreadful standpoint, and one so horribly degrading to the dignity of modern humanity and human sympathy, that I cannot understand why the Press took so little notice of it, unless it is that books of this kind are little read nowadays. The fundamental idea of the book is that all the suffering borne by humanity is consciously and intentionally inflicted by God. The notion of the supremely happy and almighty Being who torments His creatures, although in His omnipotence He could immediately intervene to help them, but does not do so, is so enormously repugnant to our modern ethical views that I cannot imagine how anyone can possibly defend such a conception. The central part of the book deals with Hell, where, with terrific prolixity,

not only the most fearful torments of the damned (actually martyred in the fiercest fire) are depicted, but, with a refinement worthy of a better cause, everything is described as so ordered that for all eternity no alleviation or mitigation of their martyrdom can be granted to the poor creatures. "The Emperor Nero, who kindled the living torches, would faint away if he could see only for a moment how frightful are the pains of Hell. Yes, thus punishes the offended God . . ." (pp. 201–203). But this is only a trivial example. And all this is mingled with the most abject glorification of "Divine justice" and other alleged divine qualities. This dissonance is the worst thing about the book. If anyone experiences pain and suffering in this world, this is sad and dreadful, but humanity is not offended, for what can be expected from the unconscious powers of Nature? Man must learn how to master them, and they permit of this to a certain extent; man can help himself. But the thought that anyone who *could* help, who is wiser and better than us men, but otherwise exactly like us, yet who, in the most refined manner, not only refrains from helping, but quite superfluously and aimlessly torments the majority of his creatures, who could not have been otherwise than they were, throughout eternity, in the most intensive and terrible fashion—who leads them into temptation from which he could have freed them, knowing that they would succumb to it—creatures whom he might have helped in his omnipotence, yet did not—for me this idea reveals an inexpressible barbarity, which is not lessened because so few men think about it, and so few are even conscious of it.

When St. Augustine or St. Thomas Aquinas writes of such things, or when we take up such a book (cited elsewhere) as *The Fire of Hell*, dated 1728, we conclude that crude periods produced crude books. But is it not absolutely shocking that in 1929 an author who quotes Nietzsche and other modern philosophers should write in this manner?

For me the ethical proof of the non-existence of God—namely, the suffering and distress of everything living—is infinitely great and convincing, and *not only* because its logical form is exceptionally free from objection (highest moral perfection + omniscience + omnipotence, on the one side, is incompatible with the actual physical and moral pain of a countless multitude of suffering fellow-creatures). Since this second factor exists, only two alternatives are possible: either God knows nothing of the sufferings of His creatures, or He neither will nor can help. Neither of these alternatives is compatible with the idea of God; moreover, human sympathy—precisely the best thing in us—revolts against the sanction of a world-order in which there is so much suffering. The atheist continues to endure suffering because he understands that "it simply can't be otherwise." If there is no one who could help, neither is there anyone who has "sanc-

tioned" this "world-order of suffering and pain," this "vale of tears." But apart from higher spheres—is it not dreadful that there are men who regard this world-order as compatible with the highest ethical supra-mundane Power? And since for this Power they only have words of admiration, praise, and love, only "Hosannahs," it is natural that they too should sanction human suffering on earth. There is no evading this argument. If I hold the terrible sum of human and animal suffering as compatible with the moral idea of the supra-mundane governance of the almighty and all-good Being, I must surely hold the most extraordinary conceptions of this "moral power"! And, if I have an approximately correct notion of it, how trivial human suffering must appear! But what a coarse and brutal person I have then become! *Noblesse oblige*; let this still be our motto. Theism incurs a great responsibility in this respect. Every crushed worm, every human tear, above all every graveyard, strikes a blow at this idea. The atheist says: "It is sad that there is so much suffering in the world; on the whole we cannot help it, but let us help one another as well as we can. What infinite sympathy I feel for all that lives, especially if I know that I cannot help! *Durum, sed levius fit patientia, quidquid corrigere est nefas.*" The theist must say: "Men suffer dreadfully and animals likewise; also men suffer hideously and fearfully in Hell. But—serve them right. What God does is well done."

And I say with emphasis: Suffering on earth still continues—it will finally be compensated by pleasure. Life has much that is good; it is and is always becoming better; life is infinitely precious; we must love it, and after all we have the power to help in so many respects. But Hell is the most frightful eternal torture-chamber, represented as though the highest Being had intentionally ordered it as such, had intentionally devised the tortures of the damned on as intensive a scale as possible. Can anyone think out this monstrosity to its end? And this monstrosity *is* now sanctioned; in the eyes of theology it is entirely compatible with the moral supra-mundane Power, and with the moral qualities of the highest Being. Can one be good in the highest degree, and yet be condemned to eternal damnation for the sake of an entirely imaginary fault? Does no one then see that under the conditions of the omnipotence and omniscience of the highest Being a sin is impossible? Could such a thing be possible, if the highest Being did not seriously will it?

I am already weary of discussing these things. But when such books are written as *Das Leiden im Weltplan* (what a frightful title: suffering as something created according to plan, willed, designed!) it is impossible to keep silence. We assume that future generations will look down upon our ethical condition from a superior height. Not only because we took part in the World War, and have soldiers

(*written in February* 1931), but we have in our universities theological faculties which proclaim such doctrines as are here described. And the saddest part of it is that they even proclaim them esoterically. I emphasize the fact that a truly compassionate world-view can be constructed only by atheism or the old pure Buddhism. At the same time, I do not assert that there are no good men among theists. Morality lies in a sphere with which the world-view must be conformable; morally good men are found with all sorts of different views. But a world-view which requires the mental sanctioning and approval of suffering and want in men and animals, as every theism requires it: a view which requires a metaphysical optimism (Oh, what a monstrosity!) and a theodicy, can build up no true ethic. If the theist does good because of his dread of the pains of hell, the good is a practical good. Instead of an ethical foundation there is the necessity of recognizing a world-order which he properly cannot recognize. These propositions are none the less true because so few are conscious of them. It is astonishing how few people think at all deeply over these things. On the other hand, there are men to-day whose inner minds reflect the notion of an atheist as a wicked person, since they have been persuaded, owing to their lack of criticism, that he is only an atheist because he wants to do wicked things without fearing retribution. (Compare Mauthner, *Wörterbuch*, II, p. 18). Atheists from conviction, of whom there are of course very few, certainly do not behave thus. (Compare Blum, I, c, p. 512, etc.) I do not, however, deny that countless superficial persons are often inconsistently reckoned among the atheists, whose irreligious convictions are dictated by fashion, or their associates—in short, by all kinds of external influences. They usually combine a show of an assumed atheism, to which they have not worked their own way, with inner superstition. These, however, are transitory phenomena of the age.

100. In this respect it is far worse for man than for the animals. With progressive intelligence the terrors of death increase. Here I cannot refrain from quoting Axel Munthe, *The Story of San Michele*, p. 54: "The only privilege Almighty God has granted to the animals in compensation for the sufferings man inflicts upon them—that of an easy death."

101. Compare George Santayana, *Reason in Religion*, p. 240: "The fact that man is born is no favourable omen for immortality." (Compare our p. 37, note 10.)

102. Compare Vaihinger, *Philosophie des Als Ob*, pp. 87–90, 206 et seq., 511–567, especially 517 et seq.

103. The so-called *new* stars are excellent examples of cosmic dysteleology. Suddenly there flames out in some part or other of the universe a new star, where formerly there glistened only a diminutive, unimportant starlet. Such a star is the so-called Nova

Persei, which burst into flames on February 18, 1901; but since then the astronomers have discovered a majestic series of such stars—indeed, they already speak of an annual mean number of discoveries in this sphere. For reasons hitherto unknown to us (for the hypotheses compare Arrhenius-Lundmark, *Die Sternenwelt*, "The World of Stars," pp. 106 and 135; Jeans, I, pp. 68, 78, and 367), an old star bursts asunder, and thus enlarges its circumference to an enormous extent. At present we know nothing whatever of the conditions which must precede such an explosion. If this should happen to us, in our system, to our familiar sun, it would mean that the sun would expand beyond its present enormous magnitude to about the orbit of Mars. Our earth, of course, together with the still nearer planets, would completely vanish in the fiery gulf. In comparison with this cosmic catastrophe the well-known great earthquake of Lisbon (on November 2, 1755), which so much influenced the ideas of the time concerning the unstable character of the world, would be child's play. Where a new star arises in the universe, and the originally small central sun grows to such an enormous size, all the inhabitants of the existing planets of course perish miserably, having first undergone terrific torments of anxiety owing to the suddenly increased dimensions of their sun. The catastrophe itself occurs very rapidly. It is perhaps needless to say that the reason of the catastrophe is to be sought in chemical and physical changes in the suddenly enlarged star. It certainly cannot be accepted that the eventual sinfulness of the inhabitants of this star evoked a sort of divine castigation.

Another case of this kind is the dangerous "cosmic radiation" of certain stars. These are the great reddish stars, which emit rays that penetrate all matter, and are absolutely lethal to living creatures of every kind. If we approached within $9 \times 10^{13}$ km of such a star all life on earth would cease to exist. The so-called cosmic rays are to-day a frequent object of research and experiment, and many things relating to them still await definite explanation. As far as we can judge, their presence in the universe is a cause of imminent danger to everything living, and must certainly be regarded as dysteleological. We dare not appeal to the great cosmic distances and the enormous cosmic vacua, and claim these as a kind of convenient protection against these dangers. This procedure would be comparable to extolling the inhospitality of the South Polar continent because one could not be attacked by a robber or a polar bear.

104. While discussing irrationality I would mention that those my views differ essentially from those of Müller-Freienfels (*Die Metaphysik des Irrationalen*). For Müller-Freienfels the universe is an irrational dynamic system, if one may say so. He does not attempt, by his irrational principle, to give prominence to the *idea* that we cannot comprehend the universe either conceptually or rationally.

The irrationality of which he treats has no bearing on the impossibility of the conceptual grasp of reality. It is rather a sort of positive thing-in-itself. The irrational-dynamic conception of reality is a hypothesis which seeks to come nearer to the abstract unknowable background of the world of appearance through a *feeling*. The essence of this feeling consists in a sort of vague presentiment that reality is to be likened to a force or a will, without anticipating how this force or will should be conceived. The irrationality of the world, for Müller-Freienfels, resides especially in this attempt to grasp the unknowable *somehow*, even though it is not rationally possible. Our irrationality does not extend to the metaphysical world-picture; it resides only in the sensualistic, or at most in the epistemological world-picture.

105. Among them, for example, the profound recognition that *we* somehow form a unity with the universe. (Compare Mauthner, *Sprachkritik*, I, pp. 665, etc.; *Wörterbuch*, II, p. 387.) At first glance this unity seems quite valuable, and somehow positive, but on closer examination its tragically problematical character appears. We have often mentioned (compare pp. 214–218) the spurious problems and intellectual difficulties which cannot be omitted in a discussion of the unity of the universe. Since it has been recognized that the psychic unity and uniformity of the universe is unreal and purely speculative in origin, the consolatory value of this order of ideas is naturally highly questionable.

106. Here the reader must be warned against certain verbal sequences which, if accepted or believed literally, may very easily confuse or obscure the correct state of the case. If, for example, we say that irrationality, even in the sensualistic world-picture, causes great obscurities and veils wide areas, completely hiding from us the sphere of the "in-itself," all this is only figuratively expressed. For irrationality is itself a child of *this* and not of *that* world, and hinders *only us* in the recognition that it can be conceived only in respect of ourselves. But since epistemology can be regarded as a struggle for the pure O- and as far as possible S-free knowledge, a struggle which is doomed beforehand to failure, we experience—again, figuratively speaking—the effects of irrationality, mainly in the sphere of epistemology, as though they would hinder us in the perception of the "in-itself." In the sensualistic world-picture we trace its effect much more faintly; the metaphysical world-picture is so unworldly and fictive that we can confront it only with resignation.

107. Compare Vaihinger on the unpermissible transfer of human experience to the sphere of the "in-itself" (*Philosophie des Als Ob*, pp. 73 and 110).

108. The impossible path indicated above, if we were to follow it farther, would lead to a spurious problem: What are the metaphysical

causes by reason of which no pure O can be grasped by perception? Every perception of O is clouded by the perceiving S. The pure O is only a postulate. Are S's conceivable which would perceive a pure O? These questions definitely lead to a *cul-de-sac*. We have a glimpse of an ideal knowledge in the knowledge of the pure O. We must reflect that all knowledge is a synthesis of S + O, and that no S, however constituted, can so externalize itself as to eliminate itself, and even if this were possible it could not prove that it had really happened. For this would be necessary an auxiliary hypothesis of a higher S, which would control these mental operations. Hence the ideal knowledge is not to be realized. For us this negative condition is perhaps regrettable, perhaps not. Seen from a higher standpoint this negation is—as has already been said—an irregularity which represents the more probable of two conceivable possibilities rather than a regularity. The circumstance that pure knowledge is a subjective longing of the subject and that knowledge is possible only with a clouding on the part of the perceiving S—this dissonance is not to be eliminated from the world. It is, however, no worse—let us say—than the argument that the human body is not a complete sphere, or that Asia is not a rectangle. I know that there were Fathers of the Church who held the opinion that the resurrected bodies in the Beyond must assume a spherical form, or who regarded a sphere as the most perfect corporeal image. Later ages have often laughed at these ideas. We repeat: the actual fact, the impossibility of observing a pure O, is neither more nor less valuable than the conception of perceiving the pure O; it corresponds only to the irregularity based on its probability. If we have continued our speculations so far, we shall know just as little of a metaphysical cause as we knew at the beginning of our meditations.

109. Compare the conclusions of Santayana in his work *Some Trends of Thought in Modern Philosophy* (Cambridge, 1933), chapter 5, "The Prestige of the Infinite," especially pp. 106 and 118. This essay contains a criticism of the French writer Julien Benda, *Essai d'un Discours sur les Rapports de Dieu et du Monde* (Paris, Gallimard, 1931). In both works there is a distinction between an "infinite Being" and a "God." The first is a great neutral, an Absolute, a $\Sigma\infty$ without moral obligation, without conscience in our sense. The second Being (in the original "Imperial God" as against "the infinite Being") is a Godhead in the ordinary sense of the word, a symbol of the forces of Nature and of history, a guardian of human prosperity and morality.

110. The basic conception of metaphysics, according to Paul Deussen, consists in the assumption that the "in-itself" is spaceless, timeless, and without causality, that in the "in-itself" the principle of will and the principle of denial prevail; that the deeper bases of

ethics are rooted in the "in-itself"; that every really good deed has metaphysical grounds, although empirically considered it is "determined by motive" and appears egoistical. These opinions may be developed at discretion. In all Deussen's ideas the conviction is innate that one can somehow say something positive about the "in-itself"; the content of the "in-itself" may correspond to the ethical views of Christianity and Hinduism.

111. Compare, for example, Hans Driesch, *Die sittliche Tat* (Leipzig, 1927), pp. 55, 68, 76, 86, 130, etc. Especially p. 76, where the reprehensibility of the dead is discussed, and the idea of the eternal torments of hell is touched upon. Warriors, soldiers, police, and the like, especially run the risk of these torments, since they kill, to some extent with good intentions, and as a duty, but, after all, professionally.

112. We will complete our expositions of dysteleology and irrationality as follows: In our known earthly existence they do not, of course, develop their highest efficiency. It can readily be conceived that life was once more obscure, worse, more pitiful than it is. On the other hand, life is beginning; we suffer less; perhaps in time we shall suffer much less. But death and the senselessness of the macrocosm, of the cosmic dangers, still remain. The formula $\delta : \infty$ will be only a little better; it will read $a : \infty$, hence $a > \delta$. Dysteleology, for living creatures, appears to attain its maximum in death. Of course—again, not metaphysically—death "is nothing," i.e. life "ends" is a verb; it is not a substantive. Nothing is concealed behind this statement; life *must* end, and if we are no more we suffer no more. The old religions would of course be obliged to conceive this function metaphysically. And at its maximum it would, as has been already said, come to prevail in hell. Both conceptions are only a sort of break with positive theology without the optimism of its theodicy. Against this they play their destructive, negative rôle. Both disappear in a higher world-picture. At most we see in them only *our* aids to orientation in the universe.

## CHAPTER XI

## THE WAY TO THE ULTIMATE

(A) *The symbolical step-ladder.*

If we would illustrate metaphorically what has been expounded so far, we might draw the parallel of a very lofty staircase, of which the highest steps vanish in impenetrable fog.

It is obvious that we have seized upon this metaphor of a slow ascent, a gradual departure from the inhabited surface of the earth, only in order to remain within the framework of the simile which we selected at the beginning of this exposition. The higher we climb, the profounder will be the knowledge associated with this climb.

The following list of propositions gives us a survey of what has been already attained, without especially emphasizing the order of the individual theses. With reference to the simile employed, every proposition corresponds to a step.

1. *First step:* We possess only fortuitous senses. Other living creatures are conceivable which would react to the external world with other senses, and in consequence arrive at other knowledge. There may be countless potential senses. Innumerable things elude us. We by no means discard *our* knowledge on this account, for though incomplete, it is, on the other hand, the only path which connects us with the external world. Even though it is defective, it need not be incorrect from the beginning; it is common to all living creatures organized like ourselves and can be verified: only, its results must be critically treated.

2. *Second step:* Our intellect also evolved fortuitously, by adaptation to the external world. In its development biological necessities were decisive. The intellect, the memory, and in the last resort the whole of consciousness, are conditions of existence for cell-states, without which they could not survive in the struggle for existence. Therefore the intellect is useful mainly for the maintenance of life, but not for epistemological speculations.

3. *Third step:* The senses and the intellect convey to us only a *relative* knowledge. Other living creatures, or—in epistemological language—other perceiving subjects, may possess better or worse knowledge; there is no "absolute" knowledge since there are only appearances; for pure objects can never be perceived. Accordingly there is no objective, no "absolute" truth.

4. *Fourth step:* Our explanation of the world requires the auxiliary hypothesis of an ego-free O, which, as well as the perceiving S, is a necessary condition of all knowledge. If we describe this pure O as "in-itself," we have thus an epistemologically necessary auxiliary conception, but we cannot venture to say anything about its essential being.

5. *Fifth step:* Man does not occupy the central point of the universe. The universe does not exist on his account. With regard to his position, it is of course convenient, within the framework of the sensualistic world-picture, to speak of an irrationality of knowledge and a dysteleology, which, however, prove on a higher stage of knowledge to be "non-existent."

6. *Sixth step:* The "in-itself" is unknowable. A positive metaphysics, and hence any metaphysics in the usual sense of the word, is impossible.

7. *Seventh step:* O is in general susceptible of control; hence for epistemology it is a safer point of departure than the directly experienced S; which, however, in consequence of the impossibility of control, is perhaps liable to all kinds of error. For example, if we proceed epistemologically from S, a lapse into solipsism is inevitable.

8. *Eighth step:* The majority of the so-called super-concepts and categories have proved on critical examination to be a series of spurious concepts. The profoundest problems are likewise only spurious problems, which really ought not to be stated in their usual form.

9. *Ninth step:* Among these spurious problems is the question of the purpose and meaning of the universe. In the profounder sense, too, we must include here also the relation between S and O, the perceiving subject and the object of perception.

10. *Tenth step:* Foremost among the spurious concepts is

substance, which owes its origin to the personifying instinct of the human intellect. There is no substance: it is an illusion, created by the activity of the human intellect, which inclines to false analogies. There are only perceptible qualities and changes, to which, in human language, correspond adjectives and verbs. This proposition is of importance for our spiritual life, in so far as the *ego*, our inner life, soul, spirit, and so forth, are no substances, but mentally economical collective concepts of processes and activities. Our ego-sentiment is a biologically necessary illusion, of which the chief constituents are memory and consciousness.

11. *Eleventh step:* On the verge of the spurious problems is the conception of being. This, if it is to be regarded as an absolutely understood verb of existence (*verbum existantiae*), is the monarch of spurious conceptions; but its application is so manifold, so indefinite, that it often emerges in the mantle of a harmless conjunction, which represents, in the Western languages, a superfluous grammatical usage.

12. *Twelfth step:* There is much which, epistemologically speaking, does not permit of proof or disproof, and in spite of this we must abide by it, because the contrary is evidently absurd. Here we must include the already-mentioned over-estimation of the inner experience of the subject, which, raised to the level of an epistemological principle, leads to intellectually impossible conclusions. It is a special problem whether we ought not to class the concept of infinity—spatial as well as temporal—among the products of intellectual illusion. In the present work this question is only *partly* resolved.

13. *Thirteenth step:* The human intellect cannot completely guard itself against anthropomorphism, but we endeavour to do so as far as we can. Idols and gods are crude anthropomorphisms. But to this realm belong also the principles of most of the general "laws of Nature," causality, and in some degree also the "great neutrals," although these are all merely the products of abstraction, and hence can only be described as sublimated anthropomorphisms.

14. *Fourteenth step:* In every event, in every change, there is a causal nexus. This is a grandiose but a *human* conception.

In a deeper sense there is only identity. Even the concept of cause is a kind of personification.

15. *Fifteenth step:* The conception of a purpose arose parallel with the human verb, from the same sources of subconscious speculations. Just as its verb, the human intellect sees a purpose, so it sees everywhere in the external world a striving for a purpose, a kind of teleology, without considering whether it actually exists. At all events, we cannot get rid of the subjective feeling that it exists. Considered from a more than human standpoint, this purposefulness does not exist.

16. *Sixteenth step:* Every age has believed in its own progressiveness. We have no reason to plume ourselves much on our present age. How far are we from the primaeval animal period, how far from the absolute lack of culture of our ancestors? How long is it since we began to do a little logical thinking? How few of us do ever think at all!

17. *Seventeenth step:* In the universe there are many temporal and spatial vacua, little matter, and even less life.

18. *Eighteenth step:* The concept of temporal and spatial infinity leads to antinomies. Nevertheless, it is easier to believe in infinity than to accept a limitation of time and space. Since, however, we do not know how this psychological situation of humanity has arisen, we can prove nothing, from our mental constitution, with regard to the problem of an infinity transcending our consciousness.

19. *Nineteenth step:* The relation between S and P is not unequivocal, if it is applied to ultimate problems.

20. *Twentieth step:* The infinite and the personal logically *exclude* one another. The highest concepts are generally speaking full of logical contradictions.

Perhaps we could go still farther. But we should soon be out of our depth. If we hold fast to our metaphor, that we have been gradually, step by step, approaching the Ultimate, we find that we have reached an altitude, and have advanced as far as it is possible to go. We are standing on a peak, and before us we see, half enwrapped in mist, yet higher and higher peaks emerging. The nearer summits are grey; those lying farther off, the highest, are quite black. The epistemological

metaphor of the mountain-peak and the view from the laboriously attained height is not new, and has often been effectively employed by philosophers. A notable instance is the close of Deussen's *Metaphysik*, where the principle of negation and the metaphysics of ethics are depicted as the highest mountain summits from which a survey can be taken. It is in this manner that we would proceed.

I would gladly make it possible for the reader to obtain a higher view. But how few there are among us who actually, and with understanding, climb the twenty steps up which we have brought them! On this earth there are two milliards of human beings. Consider how many of them, to-day, are still fetishists and animists—that is, addicted to the crudest anthropomorphism—how many religious fanatics there are, how many persons who are religiously indifferent, yet are incapable of rising above the fanatics, and how few free thinkers! And how few there are among these last, who are able to stand outside religion from a noble conviction! For all who stand outside it do not stand above it. Of these last there are in truth very few.

How many human beings to-day have already surmounted the naïve realism in themselves? How many still believe, though without knowledge of our nomenclature, in the metaphysical existence of the external world, the soul, the superconcepts? How many are there who have not even put off superstition so far as to be convinced of the validity of the causal law? Our expositions of still higher principles are still to-day incomprehensible to most of our contemporaries. Not for the reason that they do not understand the words, but because their psychic situation is not such as to make a critical orientation possible. How many have been able to renounce the thought that everything exists only for humanity's sake? How many have broken away from the delusion of final causes? Even renowned scholars cannot free themselves from this delusion, to say nothing of less eminent thinkers, or of the great mass of humanity. How few understand that progress in the philosophy of the Ultimate is impossible, as long as we refuse to surrender the "soul" and the "thing"! That

matter, regarded as an economical abridgement of intellectual process, is still quite a useful fiction, but that nothing can be done with "substance"! And further, how many have accustomed themselves to the notion that there are no "things," that there is no "being," that "being" and its related concepts are exclusively products of the intellect, formed for the purpose of our orientation in the environment, which have arisen under the pressure of the necessity of seeing and judging everything according to the analogy of the individual *ego*? Finally, we must reflect that we are all under the spell of anthropomorphism, and are powerless to escape from its modes of representation. So long as man breathes he is powerless to withdraw from the mode of thought anchored in this principle. We can sincerely rejoice that we no longer commit the more grievous intellectual errors which have their origin in the crudest forms of anthropomorphism. We cannot, however, refrain from the humble realization that only the very few are clearly aware of the peril of the anthropomorphic mode of thought as regards the development of human philosophy.

Unfortunately there are still far too many persons who dogmatically declare—for example—that the preservation of humanity is an absolute world-purpose: they envelop it in "absolute" values, and naïvely repeat the words that "the starry heavens above us and the moral law within" are the highest things in the universe. There are those who are impressed by these things, and in whom they arouse the highest conceivable admiration. The existence of the heavenly bodies and the development of morality to the stage at which we have arrived no longer awaken in us such superstitious reverence or such dread as of old. There are thousands of much deeper problems which we find inexplicable, and of which the majority will always remain insoluble. As for attempting to deduce, from these two data, that the principle of the universe is anthropomorphic, after all that has been hitherto elucidated—we can hardly find words to criticize such a view.

Even to-day, I repeat, the anthropomorphic instinct is so

strong in most people that in practice it is insurmountable. We have a greater right to speak of an anthropomorphic prejudice than the S-philosophers have to reproach other thinkers with the realistic prejudice. That there are men who do not understand this is no serious reason why others should not go forward in this direction.

Future ages will grasp more readily what to-day is not generally understood. In their lifetime Spinoza, Hume, and Mauthner were not understood.

And evolution proceeds irrationally; it does not follow a straight line, but rather spirals and wave-like courses.

And now another, final glance from the summit attained. Let us now gaze upward at the greatest, the highest, the "Ultimate."

(B) *The great neutrals.*

According to the point of view adopted, the attitude towards the problem of the *Ultimate* will vary. Formerly our relation to the Ultimate, or what used to be taken for the Ultimate, was of a purely dogmatic kind. Only the slowly progressive evolution of human thought enabled us to regard all problems more and more critically, the principal result being that we recognized the idea of the Ultimate—or rather the ideas, since in accordance with current hypotheses various "final" ideas emerged—as merely our own psychic formation. It was perceived that we were dealing merely with the *imagined* Infinite, Transcendent, Absolute. We were always dealing merely with thoughts, ideas; never with the things themselves, which remain inaccessible to the human powers of perception, and the more critically we confront them the more unattainable they are. That the developing criticism of these thought-forms had to be *psychological*, in view of the apparent source of these conceptions, *epistemological* in view of their intellectual value, and *logical* in view of their intellectual structure, is obvious from what has been said above.

But for the present we will assume that the question of the Ultimate—or, as we are accustomed to say, the Absolute—though at first glance it may seem a very old one, really repre-

sents a comparatively *new* problem. For what was formerly taken for the Ultimate was, in comparison with our present intellectual possibilities, both so small, quantitively and qualitatively, so simple, and so entirely human, that it is only by reason of the conservative habit of language that the unfathomably dark intellectual perspectives of to-day are still indicated by the traditional terms of yesterday. Of course, the principle of the universe was sought through the centuries, and again and again was discovered, but almost down to the present day (with the sole exception of India) the problem was treated only in a crude anthropomorphic fashion.

For it is a definitely modern idea to begin by seeking the Absolute beyond infinity, beyond the "in-itself" and the S and O problems.

No one will maintain that the old Vedic gods in India, the Jewish Jehovah, the Greek Zeus, the Germanic Wotan, were cosmic principles. They were idealized human beings. The tendency to extend the concept of the godhead in a temporal direction, to allow it to be in some degree immortal, if not exactly eternal, is first observable among the ancient Egyptians. Amon-Ra is still the sun, Osiris is the eternity beyond. I do not wish to overestimate this assertion. Certainly it should not be taken too positively. I can hardly believe that any of us can say what content the Egyptian priests gave to the transcendent temporal infinity beyond. The impossibility of a temporal frontier is the characteristic of every human intellect, but the majority of men subconsciously imagine eternity as yet somehow limited, since they content themselves with the notion of a very long duration, without emphasizing too strongly the endlessness of eternity. Aton, under King Amenophis IV, was perhaps the first attempt to construct a cosmic divinity. Perhaps.

In India they went farther. There, for the first time, the cosmic principle was conceived, no longer as an exaggerated man, but quite aloof; was intentionally conceived without qualities. Brahman is no longer a personal god, but already an Absolute. Even his pure transcendence is emphasized. In India we already find Kant's doctrine of phenomena anticipated. The whole world of phenomena accessible to the senses

is in the higher sense not real. The sole actual Being is the Brahman, unknowable by our senses, the metaphysical principle of the All. Compared with the Upanishads Platonism is no advance; on the contrary, its whole tendency led it through Neoplatonism (*Hen kai Pan, pante arretos arche*) to Theism, since men could no longer understand what a step in advance it was to substitute a *neutrum*, a *principle*, for a person, or realize the value of depersonalization. Christianity likewise meant a great retrogression, since from the Jewish Jahve was formed only a greater but still a personal God. I would not venture to say that the Christian God was already cosmic, since the idea of such a God did not arise before Giordano Bruno. The Christian God was greater than the God of the Jews in so far as He was God not alone for a people, but for the whole of the then known human race; that is, for some hundreds of millions of men, since these, and with them the shores of the Mediterranean and part of Asia Minor, in those days meant "everything." His alleged absolute character was emphasized only in the framework of naïve realism, and the spirit was conceived materialistically, just as hell fire was an actual fire. We do that epoch an injustice if we take our great concepts as a starting-point, and try that world of ideas according to this standard. Neither infinity, nor absoluteness, nor any appearance of transcendence entered into the world of ideas of early and mediaeval Christianity. The ideal content of Christianity is, like the content of Greek geometry, in some degree stereometrical. The alleged Faustic impulsion (113) towards the Infinite did not then exist; only the eternal duration of time in the direction of the future was emphasized. The wish to assert the spatial infinity of the universe, and somehow to bring God into relation with this infinity, did not occur to anyone for centuries. Until 1600 men knew nothing of the universe. The *Weltanschauung* was geocentric, anthropocentric.

Of the true magnitude of the universe we have had some notion only, so to speak, since yesterday. And we are ashamed to confess how little we know about it. We began to do scientific work only three hundred years ago. . . .

For all the preceding centuries God and the other creations of human fantasy had a dogmatic character. They knew nothing of a critical mode of consideration, according to which that which is subjectively conceived need not exist objectively; of our modern perception that the idea of an object and the object itself are not the same. On the contrary, the whole hapless Platonic verbal realism had the result that for centuries men believed that thought-forms had a true existence, which, on the other hand, did not correspond with the objectively observed external world. The *first* illusion is the human belief—perhaps the primal instinct—that our psychologically arising fantasy-formations have a materially objective and even metaphysical existence outside ourselves. The *second* illusion is the tendency, perhaps a more powerful instinct, slavishly to shape these fantasy-formations after the pattern of the individual *ego*: to extravert the enormously magnified, contentless *ego*, and its monstrously exaggerated quantitative attributes, and to believe in the *existence* of this extraversion. The *third* illusion; after Kant had discovered that a difference existed between the phenomenon and the thing-in-itself men endeavoured partially to transfer what was valid for the world-picture of naïve realism to the unknowable "in-itself," and imagined that it would be possible to make positive assertions about this hypothetical and entirely inaccessible world. This of course cannot be done. For either there is no "in-itself" at all, it has no metaphysical existence, and its assumption is only a necessary illusion of the intellect, or there is an "in-itself," but it is inaccessible to us. Both intellectual possibilities exclude any kind of human knowledge. There is no third possibility.

In this situation we perceive more and more clearly that what we assumed that we saw outside us must be sought only within us. Kant, of course, may not have been on the right track when he metaphysically denied time and space, but he pointed to the right path. The things which were formerly assumed to be metaphysical were more correctly to be included in the epistemological; indeed, they belong, by virtue of their origin and their content, to the increasingly modest realm of psychology. Many great things have no existence. But in

our minds there are ideas of these great things. We have seen that the Indians followed a better path than the men of the Occident. True, it was not to their credit that their doctrine was not a generally accessible science, but a jealously veiled mystery, which was not taught in any public university. While the Occident generally shared its spiritual possessions, the Indians concealed their mysteries, and forbade under heavy penalties—in this world and the next—any communication of their knowledge to the uninitiated. Hence their wisdom was comparatively useless. It was the wisdom of a handful of learned egoists, who exercised no influence on the moral and intellectual level of their gigantic people. On the other hand, of course, intolerance was greater in the Occident. In India six orthodox and a series of heterodox systems were able to live side by side without persecution. In Europe, with Nicaea and Chalcedon, there was an end of philosophy. It survived only as *theologiae humilis ancilla*. That the Europeans liberated themselves from a bitter slavery, while the Indians could not shake off a milder one, is not to the credit of the Indians.

The idea of substituting the great *neutrum* for a Person is, however, a mighty step in advance. Even to-day, in spite of their errors, one cannot grudge the Indians praise, for in this respect they became the pioneers of humanity. It is no accident that Schopenhauer himself, who in the West was the first to occupy himself seriously with the Indian mode of thought, was also the first to perceive these things correctly. At the first glance, of course, it is clear that the Indian concept of the Absolute is a sublimated anthropomorphism, in so far as the Brahman is identified with the human *ego*, and is hence equated with a very familiar conception. Only on closer examination do we see that the Indian philosophy understands the matter quite differently. Any anthropomorphism is denied as soon as we pause to consider another, profounder thesis of the Indian philosophy; that the Brahman is unknowable, that it lies in the transcendence, and that our deepest self, our Atman, is really eternally hidden from man. We may have a sense of existence, but what we *are* in the profoundest sense

is just as unknown to us as that which forms the background of the external universe.

In Europe, after Spinoza, the great *neutra* came slowly into fashion, although the pressure of Theism was so strong that it was but very rarely admitted that they meant a confession of atheism. Only a few thinkers had the honesty to confess this. Many were indeed atheists, but they avoided an open profession. Among the professors was Schopenhauer, and more recently, Mauthner, who wrote the history of atheism. There was an atheistic movement among the French and Russian revolutionaries, but their atheism was rarely based on epistemological speculations. Some were atheists not out of any kind of conviction, but on purely political and worldly grounds. Incidentally the "superficial"—not profoundly convinced—atheists have greatly damaged the cause of this *Weltanschauung*. This cause was all the more vulnerable, as since the time when intolerance reigned in Europe it was a principle of ecclesiastical morality to describe the so-called atheists as impious malefactors, who denied the alleged God only because they wanted to escape His punishments. This assertion stands, of course, on feet of clay. He must indeed be a peculiarly naïve atheist who would deny God without scientific and philosophical conviction, while in his inmost heart he was still convinced of the existence of a supreme personal Being. And he would indeed be simple-minded if he thought to avoid the wrath and the righteous punishment of this supreme Being merely by denying his existence!

It is no proof of the so-called amorality of atheism if men who have no notion of the intellectual altitudes which must be climbed in order to attain to atheism erroneously accuse it of moral instability. I know of no example of immoral life on the part of a philosophically convinced atheist. Pierre Bayle dealt with this question long ago, and what he said about it still holds good to-day (see p. 33).

At this point something should be said about pantheism. It is an embarrassing term, which owes its origin to the fact that men were unwilling to surrender the ancient and enormously valued concept of God even though they were aware

of the contradictions inherent in it, and the impossibility of bringing it into harmony with modern scientific and philosophical thought. Logically pantheism is a *contradictio in adjecto.* It is just as though one were to call a great ocean liner a fish or a flying-machine a bird. It is a belief in an impersonal principle, to which one gives an antiquated, personal name which is absolutely emptied of content. Spinoza was still obliged to use the word *deus* while thinking *natura,* lest he should be burnt alive as a heretic. To-day, however, this is a superfluous precaution, and a crude logical error into the bargain. Here what is impersonal has at the same time to be a person, which must always be thought of as endowed with a species of *ego*-sentiment. Any contradiction in the word and the concept was explained away by the sublimation of the second part of the combination: in other words, by employing the word *God* no longer in a literal but only in a fluid and indefinite sense; whence results an entirely superfluous tautology: All ( = pan) = a sublimated God-concept. We will not decide how far it is to be sublimated, but will merely write the algebraical formula for totality: $\Sigma\infty$, which is once more "All." For it was in this sense that the vacant and superannuated word *Theos* was employed in the synthesis. The old meaning of the word *Theos* could not of course be employed in the pantheistic sense. Plants, stones, animals, men, even angels and devils, are not God. The latter exists, strictly speaking, always outside the other persons and things of the world; always *besides* the world. He is not identical with the world. Pantheism is water and fire at the same time, a wooden iron; indeed, according to the attitude of its apostles, a more or less unconscious—and therefore all the worse—logical error, or an insincerity.

After this historical excursus we will return to our proper thesis. Let us once more recall to memory the words commonly employed to designate the Ultimate. These are the great *neutra,* already mentioned more than once: Brahman, Tao, *Hen kai Pan,* the Unknowable, the Transcendent, the metaphysical principle, the Absolute.

Concerning the two oriental metaphors (Brahman and Tao),

we need not say much here. By reason of their content they are difficult for us to understand, since it is difficult for us to-day to imagine ourselves in the psychic situation of the ancient Asiatic peoples.

*Brahman*, as has already been mentioned, is the Indian word for the Ultimate, which originally meant "prayer." Since the ancient Indians believed that they could acquire power over their divinities by the help of prayer, they considered prayer to be more powerful than the divinities themselves. A god of the old Vedic religion was *compelled* to obey the petitioner and comply with his wish, if the petitioner correctly performed the ceremony of prayer. If the hoped-for fulfilment was not realized, this, according to the old Vedic view, was attributed to the circumstances, and something about the prayer or the accompanying sacrifice was liturgically incorrect. In consequence of this extraordinary estimate of the value of prayer, the word *Brahman* gradually acquired the meaning of the mightiest, the highest, the Absolute. It then became the technical expression for the highest concept of Indian metaphysics.

Considered from the standpoint of modern philosophy, the concept of Brahman is even to-day to be taken quite seriously. Its unknowableness, other-worldliness, and transcendency,(114) so often emphasized in the Upanishads, bring the concept as close to us as if it originated from modern agnosticism. But as, on the other hand, the Indian doctrine of perception is a strict S-philosophy, which denies the metaphysical existence of any kind of O, it arrived at the familiar equation Atman = Brahman: that is, the Absolute is equivalent to the profoundest self of man, so that it possesses (in European parlance) an S-like character,(115) in which, of course, the unknowableness of true being, of the Atman as well as the Brahman, is once more emphasized.(116)

Still more difficult for us is the Chinese conception of the Ultimate: *Tao*, a word which is supposed, originally, to have meant "the way." It is more difficult because for us the psychic situation of the ancient Chinese is more alien and more incomprehensible than the soul of the ancient Indian. Moreover,

we can place but little reliance upon the translations into European languages by which Chinese philosophy is made accessible to us, since they were usually made by persons without profound philosophical culture; indeed, by persons in whom an obvious Christianizing tendency is apparent, and who endeavoured to pour the old heathen literature of the Chinese into European and Christian moulds.(117) Nevertheless, I should like to reproduce here some passages of a translation of Chapter 14 of the old Chinese work *Taoteking*, by Lao-tse: "Thou seekest the Tao and seest it not. It is colourless. Thou dost hearken and thou hearest it not. It is voiceless. Thou wouldst grasp it and thou canst not reach it. It is incorporeal. . . ." And from the work *Tschuang-tse* (written by a pupil of Lao-tse): "Tao knows without activity. . . . It cannot be spoken. What can be spoken is not Tao. What gives form to shapes is itself formless: thus Tao is nameless. Whoso answers him who enquires after Tao knows not Tao." The impersonality, the non-divinity of the Tao is clear from these words. It is a primaeval confession of agnosticism. We, of course, can make little of it, in our comparative ignorance of the Chinese soul and the Chinese idiom.

One can only repeat that the Tao, equally with Brahman, is a concept to be taken quite seriously, and that both concepts show that the abstract thought of the ancient Asiatic peoples had reached a very high level. We should be on quite a wrong track if we attempted to connect these ancient symbols of the Ultimate with the various magic rites which formerly prevailed in India and China. Both conceptions claim our respect, but they were always confined to a relatively small circle of thinkers, without in the least influencing the thought of the great masses of the Asiatic peoples. But we Europeans have no right to despise these two Asiatic peoples on this account. With us also the esoteric formation of concepts, especially in the sphere of epistemology and critical philosophy, has always been restricted to a small circle, and its influence on the views of the masses has been so small as to be practically unnoticeable.

*Hen kai Pan* is a neo-Platonic synthesis, with the emphasis

on the unity of the universe of which a partial criticism has been given on pp. 103 and 214 ff. It is an anthropomorphism, but of a quite abstract kind: we feel ourselves as "one," we artificially include the infinite in the category of unity, a negative extraversion to be explained psychologically. Of the subsequent fortunes of the concept *Hen kai Pan* in the neo-Platonic philosophy, and its further intellectual development by Iamblichos, we may read in any recent history of Greek philosophy. But one interesting parallel may be drawn. In the later Buddhism of the Tibetan monks the concept of the Ultimate is developed quite as abundantly as is possible to a critical mind. The concept Adibuddha is the designation of the Absolute, a concept which corresponds with such grandiose but uncritical ideas as may be found in a similarly exaggerated form (to the best of my knowledge) only in Iamblichos (compare Rhys David, *Buddhism*, chapter ix, part 2). We shall later have an opportunity in the discussion of the Absolute of examining this train of thought more closely.

Among the designations of the Absolute, apart from conceptions expressed in words, is the mathematical formula $\Sigma\infty$. In its mathematical abbreviation this denotes a purely quantitative numerical abstraction. In this form it is of all designations of the Absolute the least disputable. It must be obvious to everyone that everything which exists, or can exist, or can be thought, must form a comprehensive total which may be best denoted by the symbol of infinity. To the simple existence of a totality of Being it seems difficult to raise any logical objection. But as it happens, to many thinkers the formula $\Sigma\infty$ does not suffice; and they stress the enormously manifold character of the different possible intellectual modes of approaching the infinite. In order to meet this objection some have preferred to write $\Sigma\infty$ of all $\infty$. It is methodically more correct, though mathematically it is perhaps superfluous, since the conception of infinity is insusceptible of any comparison. The only criticism to which this formula is exposed is, however, of a fundamentally subversive character. If we should agree with Vaihinger that the entire conception of infinity, which must always lead to antinomies, is an illusion

of our intellect (118)—if, to a certain extent, we disbelieve in infinity on principle, we cannot use the symbol of infinity in a formula which expresses a mathematical abstraction of the totality of being. The solution of this problem is of course impossible. Our O-philosophy warns us of the dangers of the conception of infinity, but it cannot adopt such an attitude of rejection as the S-philosophy, since it must hold fast to the actuality of a reality apart from our consciousness.

*The Unknowable* and *the Transcendent* are indeed mutually synonyms. They are not, however, synonyms with *the Absolute*, a term very often employed for the Ultimate. To begin with, at all events, they denoted something quite different from the Absolute. If now and again, by a mental detour, they are identified with that conception, the reason for this must first be discussed. Both these terms would imply much less than the Absolute, which often has a somewhat *positive* connotation. We shall see later that it is incorrect to think of this conception as a *something*, or indeed as a thing. Involuntarily we feel that there is something of the noun about it, since we are so organized that in connexion with similar conceptions we always think of something real; whereas we always feel that *unknowable*, and the related Latin term, *transcendent*, both partake of the adjectival. They would imply how the Ultimate is or is not constituted; or *where* we are to look for it, and where not; but they do not venture to say *what it is* or is not. Both transcendence and unknowableness can properly be used only relatively to a perceiving subject, whose sphere of perception they delimit in a certain sense. This delimitation is of course quite special. A tiny knowable portion is opposed to one almost infinite, inaccessible to knowledge. Totality is by no means included in these conceptions; at least, it is never emphasized, as it necessarily must be always in the case of the Absolute. Hence if we speak of the unknowable, the transcendent, we can never eliminate from our minds the *observer*, of whose field of perception a negative judgment is implied. Someone, after all, must exist the possibility of whose knowledge must be admitted, whose actual capacity for knowledge is in some way denied; since to express totality we have

only one formula, $\infty - \delta$ from which neither the tiny punctiform $\delta$, nor the perceiving subject, can be eliminated. This is in complete and conscious opposition to the concept of the Absolute, in which totality, universality, is invariably emphasized, so that no observing S can be taken into account. In other words, it is inherent in the concept of the Absolute that it includes everything, that outside its domain there is nothing, and nothing can be thought of. The consequence is that the concept of the Absolute is and will for ever remain an imperfect concept, because the requisite mental operation for conceiving it in its perfection cannot be completely performed by the intellect.

If we intentionally or unintentionally take up such a standpoint that we disregard the small subtrahend $\delta$ in the formula for the Unknowable, we are once more involved in the logical difficulties of our inability to complete this concept—or any concept which presupposes complete totality. In practice, this is what happens: the idea of totality is accepted as implied, because we cannot do very much with a truncated concept. Consequently the concept of the transcendent and unknowable is in practice, even if it is not intrinsically, a concept which cannot be perfectly comprehended.

How both conceptions came to be employed as designations of the Ultimate is of course not difficult to explain. We have already more than once insisted that there can be no objective truth and no absolute knowledge. One cannot get beyond appearances, and the "in-itself" of the universe remains secluded from knowledge. That there is thus no "knowledge" is a logical *e*-judgment: the denial, the negation in the predicate, relates to the whole domain of the subject. The "in-itself" is no totality, but it can, of course, be treated as a $\Sigma\infty$, the more so as it can be assumed that outside the "in-itself" actually nothing can "really be." Appearances should of course be thought of as merely concomitant phenomena of the whole existing "in-itself," not as an essential *plus*. Since this whole "in-itself" lies in the transcendent, the two concepts—both the English and the Latin designation for one and the same epistemologically negative function, in which the whole "in-

itself" is somehow contained—must be approximated to the Absolute *at least* quantitatively, if not equated with it.

It is obvious that in the discussion of these concepts we must often resort to metaphor, and that we are exposed to the danger of antinomies. One of these antinomies has been already mentioned. It consists in the impossibility of perfectly conceiving the notion of the transcendent, which on the one hand must be thought of as infinite, and on the other, with regard to the hidden relation of the implied observer, who must remain outside its domain, cannot be thought of as infinite. The remaining antinomies connected with the conception of the transcendent will be discussed in the next chapter.

If we consider the inner content of both these great adjectives we may readily appreciate that the English word *unknowable*, as a correlate to modern agnosticism, and in its unpretentious modesty and emphatic negation, is indeed the most suitable word that could be employed as a technical expression in this connexion.

It says no more and no less than that we do not know, that we shall never know, that knowledge is impossible (*a*) for us, (*b*) for all subjects conceivable to us.

(C) *The Transcendent.*

The older Latin word *transcendence* has, of course, quite a theological sound. At all events, its negating character is no longer so obvious. It looks as though it was always on the point of saying something positive out of its negative content. For this reason I was for years averse from employing the word in epistemological trains of thought, since I was always afraid of evoking in my readers some sort of occult thought-complex. But the most recent philosophical literature has become so tolerant of the word—whose content is of great epistemological importance—that we hardly avoid using it. However, it seems necessary here to say something more about transcendence, and to define exactly the concept which we have now found necessary.

The word *transcendent* should really be used only in connexion with its correlative *immanent*. These two words go

together, much as north and south, left and right, optimism and pessimism, good and evil go together. The content of consciousness, whether it is conceived as the content of the external or of the internal world, is always immanent. What is to be thought of as outside the consciousness—or another similarly conceived whole, so far as linguistic usage permits of its conception—is transcendent. In epistemology both words are almost always employed only with regard to the consciousness.(119)

But what is not the content of consciousness need not, of course, be transcendent; it may stand towards consciousness in yet another relation. The so-called transcendence of consciousness, or transmentality, which only comes into question if an otherwise familiar mental content is momentarily not a content of consciousness,(120) in which my permanent S, together with the O to be taken into consideration, are my realities of experience, is yet no transcendence in the usual sense of the word, and must be carefully distinguished therefrom. Every thought, indeed the whole psychical life—with the sole exception of the primary experience and the various notions which may at the decisive moment exist in full consciousness—transcends in *this* sense.

Let us follow the matter still farther. There are, for example, geographical names, of which I have learnt nothing whether by hearsay or from books. From the standpoint of the S-philosophy one might speak even here of transcendence. The name under consideration was never a content of consciousness of my S, never entered into my reality of experience. Here, nevertheless, there is no question of a *pure* transcendence, even though this case differs considerably from the transmentality discussed above.

*Pure* transcendence is to be sought in the region of the "in-itself," hypothetical, but necessary to thought, or in relation to this region, as Kant has already shown. The "in-itself" corresponding to every appearance, in the sense of our working hypothesis of the external universe, which is unknowable by our S, signifies pure transcendence, a transcendence which of course only the O-philosophy recognizes

unreservedly. In this respect the two standpoints are conspicuously divergent. Both recognize transcendence in the region above mentioned, where the subsequent transformation of the transcendent *x* into an immanent *a* is always possible (when something which hitherto was never my content of consciousness, subsequently enters the sphere of my reality of experience). The O-philosophy recognizes also, as has already been indicated, *pure transcendence* in a province which roughly corresponds with the sphere of the "in-itself" not admitted by the S-philosophy; that is, the sphere in which the entrance into reality of experience—or psychologically expressed, into consciousness—is excluded from the outset.

Even in pure transcendence stages and differences can be established. Intellects may well be conceivable which can perceive a part of the transcendent, and a transcendent might be conceivable for whose perception of which no qualified S *would* be thinkable—where even the S in question *might* lie in the pure transcendent. The suggestion of this kind of transcendence—a transcendence, so to speak, raised to the second power—is derived from Vaihinger (*Philosophie des Als Ob*, p. 73). To put it briefly, in the realm of the transcendent there may perhaps be inexpressible possibilities, which are not S and not O, but things of the world beyond, entirely different from all things conceivable, and which can be inferred by no S and no imaginable intellect. The potential form in which this proposition is framed implies that we may disregard the limitation, "by no S conceivable by us," which would otherwise be necessary.

The consequence of the distinction between many kinds of transcendence, and especially between the "spurious" transcendence (in the wider sense of the word) and pure transcendence, may readily be perceived. On the one hand, a clear distinction between the various forms of thought is a logical necessity. Without an exact classification all progress in this naturally obscure region would be impossible. We should be confronted with intellectual difficulties in any case. But by the exact comprehension of the concepts under consideration we can at least reduce the unavoidable difficulties to the minimum.

Before we proceed to discuss the above-mentioned intellectual difficulties we will endeavour to regard the individual kinds of transcendence from *another* standpoint, and classify them according to yet another method.(121)

One may, of course, arrive at the conviction that the ordinary cases of transcendence, as we encounter them in practical life, are often only appearances resulting from our ignorance, negligence, or lack of mental concentration, and so forth. But it cannot always be precisely determined whether anything is to be ascribed to this sphere of "spurious" transcendence which has been forgotten by the thinking subject, or which, by no fault of the subjects, as it were, had never become its psychic property. That we already speak of a "spurious" transcendence at this stage, resorting to such a grandiloquent term, is only a consequence of the epistemological dogma, according to which all reality—in so far as it is not the content of consciousness—is transcendent. The matter can of course be expressed in other and less learned language.

There now remains pure transcendence, within whose compass the for ever inaccessible things-in-themselves may be conjectured, even though their sphere is still "on this side" of transcendence. We cannot perceive the pure O, but in spite of this we are convinced, and cannot resist the thought, that the things-in-themselves, whose pure O character we cannot perceive, are nevertheless to be sought in our immediate neighbourhood. If the first, spurious transcendence (to revert to the three world-pictures defined at the beginning of this work) is a transcendence belonging to the sensualistic world-picture, or briefly, the sensualistic transcendence, so the pure transcendence is to be looked for in the epistemological world-picture, and has its origin in the principles of epistemology. There is still, however, a third hypothetical kind of transcendence, which hitherto we have not mentioned, and which, as it corresponds with the metaphysical world-picture, we may call the metaphysical transcendence; but this, however, like the whole metaphysical world-picture, is of a fictive nature.

From this we see that the three world-pictures help us clearly to distinguish between the individual kinds of trans-

cendence. Thanks to them we have lighted upon a form of transcendence which is not usually considered in the literature of the subject. On the other hand, this third and fictive kind of transcendence is a transcendence which lies entirely "beyond," and is a constant companion of the Absolute (compare p. 29 et seq.). Just as the Absolute is reserved as the ultimate concept of the metaphysical world-picture, and "projects" into the two remaining world-pictures, the epistemological and the sensualistic, only when it is an appearance for perceiving subjects, so with the transcendence, though the transcendent as such cannot "project" in this sense. Only the metaphysical transcendent, the black mantle of the Absolute, could, metaphorically speaking, claim to be hailed with the Absolute, as the Ultimate. Originally a negative attribute of the Ultimate, withdrawn from S—as incapable of perception by subjects—transcendence grows into a metaphysical monster, a gigantic magnitude enveloping the Absolute, with which, in the end, in the last, remotest fiction of our speculation, it coincides in an identity.

So the originally harmless word, thanks to its indefinite character and its versatility, has made its way back to the Ultimate, and, in the "highest latitudes," as a constant attribute of the Absolute, can almost be mistaken for it, owing to their common unknowableness.

Metaphysical transcendence, which, in order to distinguish it from the other variants of this concept, we describe as the transcendence of the "beyond," cannot be too sharply separated from the others. It alone can claim to be counted among the designations of the Ultimate.

The antinomies of the transcendents have still to be further discussed.

1. To attempt to conceive the difference between the transcendent of "the beyond" and a metaphysical nothing is an intellectual torture. Even the "sensualistic transcendence" presents intellectual difficulties, although in commenting upon it we are moving in familiar waters. With the separate stages of the epistemological transcendence the difficulties are still greater. But at all events it cannot be denied that

we can still to some extent appease ourselves by establishing the difference between the epistemological thing-in-itself on the one hand—negative indeed, because unknowable, yet intellectually necessary—and, on the other hand, a metaphysically conceived nothing.

But we encounter the worst difficulties when we attempt to compare metaphysical concepts. Here we are confronted by a transcendence in considering which, against all human possibilities of imagination, we have to think of the perceiving S as absent, in order to make it metaphysically relationless, and also a metaphysically imagined nothing. No doubt the difficulty here described is a spurious problem, but on methodical grounds we cannot pass it over in silence.(122)

2. We fare badly with any systematic recognition of the higher kinds of transcendence, from the transcendence which we have described as pure transcendence upwards. We cannot escape from intellectual difficulties and contradictions. Fritz Mauthner says indeed (*Sprachkritik*, I, 680) that there may be standpoints from which it really makes no difference whether we accept or reject every metaphysical, and, of course, every higher transcendence. On the one hand, so long as we are seeking to pursue a critical philosophy, we must not object if he advises us to *refrain from* all metaphysical concepts as such, and from all spurious conceptions which urge themselves upon us as technically necessary. On the other hand, at least methodically, a certain distinction is to be maintained between such thought-formations and a pure nothing—of course, in full consciousness of their fictive character. It is much as though we were to declare, of two straight lines in the Euclidean geometry, that they intersect each other in infinity, although we have an assured, subjective feeling that they never meet.

3. Further, we might suppose, from the above statement, expressed in potential form, that there might be a transcendence inaccessible to any intellect, without restriction to *our* powers of imagination and thought; that there might be a kind of metaphysical transcendence, entirely of "the beyond," which would pass, indeed, into "absolute" transcendence. It

would seem, if we can speak of such a concept at all, that there is justification for it, since it remains inaccessible *to every S* of whatever kind, and hence is to be thought of as "relationless" or "without relativity."

This, however, would be a *fallacy*. Quite apart from the limitation implied in the potential form of expression, we must always imagine the presence, in this intellectual process, of a *concealed observer*: not merely all those S's for which the transcendence remains unknowable, but a still more recondite observer, who, so to speak, sees to it that the proposition retains its validity for all S's whatsoever. The complete idea is once more, of course, incapable of conception, and on deeper consideration a perceiving S, or an S imagined as verifying, always makes its appearance, and always introduces an atom of relativity into the train of thought. Hence every idea of an absolute transcendence becomes a spurious concept, a logical impossibility. Of this order of words we need speak no farther, although on p. 267 it had to be admitted that ultimately the two conceptions of the Absolute and the metaphysical transcendence arrive at a very close (fictive) approximation. And if we were to force ourselves, at all costs, to refuse to think or see anything of the kind, by this very effort to suppress, at all costs, something that intruded upon us, we should at all events admit the fictive character of the whole notional complex.

4. But there is yet a further logical restriction with regard to the sphere of the transcendent. We willingly admit that for us and for other intellects the greater part of the real and the possible remains in the transcendent. The sphere of the spurious, merely "sensualistic" transcendent, of the *merely* unknown, so far as this consists of those parts of the phenomenal world which are accessible to experience, is constantly *diminished* by cultural development and scientific investigation. We must believe, of course, that the sphere of pure transcendence remains unchanged. After all, even if this limitation affects only the inferior parts of the concept, it is not to be underestimated, since we know that the S-philosophy restricts the concept of the transcendent to this sphere alone, and that

for us human beings those parts of reality which are at least potentially accessible to us are the most important.

5. The following antinomy relates to the hypothetical, metaphysical transcendence, which we, anticipating its unknowableness, have almost equated with the Absolute. If we compare the two conceptions, we arrive at the assumption that the metaphysical transcendence must *always be less* than the Absolute; that, after all, things can be thought of which do not transcend. For the conception of the absolute the totality of the thinkable is obligatory. Not so for the conception of the transcendent, which is always less. However, cases are possible in which between the algebraical symbols of the transcendent and the Absolute *another* mathematical relation may be imagined than the almost inevitable $T < A$. These cases will be mentioned in the discussion of the Absolute and its antinomies on p. 298 et seq.

6. It has already been mentioned that every transcendence includes a simultaneously imagined S, and that therefore this concept cannot lay claim to non-relativity and totality. If we have not succeeded in eliminating this S even from the transcendence of "the beyond," and the pure transcendence, it is still more impossible to eliminate it from the sensualistic, spurious transcendence, and we do not even attempt to do so. The transcendent is therefore subject to two kinds of limitation in respect of the totality intellectually imported into its domain:

(*a*) through its correlativity to the concept of the immanent,

(*b*) through its relation—which can be never completely dismissed—to a perceiving S, whose perception must be restricted by the very transcendence from whose domain one can never completely escape.

Thus the transcendent is not unconditional, and since everything of an S-character is intellectually formed as an abstraction from the epistemological *ego* or from the psychological *ego*-sentiment, everything transcendent is also *ego*-related.(123) And on the other hand the transcendent is almost equated with the Absolute.

In this connexion it should be mentioned that the doctrine

of the metaphysical transcendent, which, in our treatment of the subject—on account, of course, of its fictive character—we have included only for methodical reasons, was developed to extremes in Ancient India. Many of the images derived from this intellectual world show how even these attempts were made to approximate the transcendent more closely to human powers of conception. In the Indian philosophy the Brahman, i.e. the Absolute (of course metaphorically) is represented as submerged in water, where the metaphorical water is intended to signify the transcendent. A little portion of the submerged Brahman projects above the surface of the water, which would correspond to our modern notion of a floating iceberg. Much fault may be found with this image; nevertheless, it is an interesting fact that this somewhat abstract and difficult problem was engaging the men's minds at a time when in the Near East, and China, and of course in Europe, there were as yet no words in which such conceptions could be clothed.

But after our imaginative faculty had once acquired this image, it could not entirely abandon it, in spite of its inadequacy. Similar notions come to join it, if in spite of its scholastic character we have included the metaphysical transcendent in our deliberations, and if we have accepted the transcendent at all among the great neutrals.

But the transcendent offers us other advantages of an intellectually technical nature. It is highly economical, and at the same time methodically unobjectionable, to relegate problems whose solution, for various reasons, appears to us utterly impossible under normal conditions, to the realm of the transcendent, if we do not wish to repudiate them immediately as spurious problems. There is always a certain arbitrariness in this proceeding, and at the same time a certain judgment of values, which should, if possible, be avoided. For example, we relegate the problem of the synthesis between S and O—which appears to us impossible—to the transcendent, and in so doing we are certainly more logically justified than if, with Schelling, Müller-Freienfels, and many others, we were to co-ordinate it with the realm of the Absolute. Of

course, if our concept of the Absolute is so wide that it includes everything—really everything—it must of necessity include this presumed synthesis. Methodically, however, this is not correct. It already borders on the antinomies of this concept, which, as we shall presently see, are far more difficult than the antinomies of the transcendence. We are scarcely justified in saying that the synthesis of S and O should be included in the Absolute, for this would amount to saying that in the Absolute there is perhaps a kind of positive synthesis of this epistemologically insuperable antithesis. To the far more discreet relegation of this synthesis to the realm of the transcendent hardly any objection can be raised. By this inclusion in the realm of the transcendent it is merely asserted that such a synthesis is for us entirely unimaginable, and can occur only in the Unknowable.

At the end of our considerations there is once more the excellent dictum of Reininger (*Metaphysik der Wirklichkeit*, p. 266) to be pondered, that there are only transcendences of thought. We cannot get over the difficulty of the thought of the transcendent. It is one of the antinomies of the concept, that on the one hand transcendence exists as a concept in our mind only, while on the other we cannot avoid thinking that the concept of transcendence is just as necessary to thought as the image of the external world, or the so-called realistic prejudice.

The external universe, transcending consciousness, is for us an unavoidable methodical hypothesis, if we would not come into logical conflict with our everyday experience. The transcendent is an intellectually necessary supplement to our *Weltanschauung*, and in our thoughts we are compelled to consider even the metaphysical transcendent, however firmly we may be convinced of its fictive character.

This consideration has shown that the antinomies in the concept of the transcendent are relatively not too numerous, since its negative character, its indefiniteness, and its other negative qualities facilitate our mental operations. On the whole, we may say that by such a designation we are reduced to mingling several concepts. By the transcendent we under-

stand now transmentality, now the spurious sensualistic transcendence, now the pure transcendence, with its two forms (as already discussed), and finally even the metaphysical, fictive or other-worldly transcendence. If we except this last notion, we are dealing throughout with concepts to which the sign of infinity cannot be attached as a constantly attendant quality, but which must always be represented as less than $\infty$. At the base of all these kinds of transcendence lie negative and always relative notions or concepts.

In the metaphysical transcendence, which already exists, in Vaihinger's sense, in the realm of "the unpermissible transference," indefiniteness begins to operate in every direction. We have consequently equated this kind of transcendence though of course on negative grounds, and with a certain inexactness—with the Absolute. This we have done principally under the influence of the Indian philosophy. If we proceed very carefully it should be an easy matter to guard ourselves against error. But after the foregoing explanations, if the restrictions mentioned are observed, we need no longer run the risk of committing logical errors and falling into confusion by any equation of these negative and fictive conceptions.

In the discussion of the metaphysical transcendence we had an example of a metaphysical principle—though negative and agnostic—of the totality of being. Metaphysical transcendence is a special case, and the metaphysical principle is a super-concept. We cannot help feeling a certain awe in respect of any metaphysical principle, because it always seems as though behind the harmless word there must stand an anthropomorphically conceived Super-person, who in the sense of the old, long-superannuated world of thought, must determine the nature of the principle, and therewith everything that depends upon it.

We do not, of course, raise any objection to principles in the individual sciences; on the contrary, we regard them as reliable aids to our orientation amidst the enormous mass of individual perceptions which crowd in upon us from all sides. Without certain requirements of order any kind of

knowledge—however modest a sphere of validity we accord to this conception—would be completely impossible. In some of the foregoing chapters we had occasion to discuss the metaphysical principle.(124) Humanity has learned by experience that beneath this modest expression there is always concealed something highly arbitrary, and completely uncritical and unscientific, which can no longer be smuggled into human thought by any other route. We will ignore the positive, arbitrary content which the philosophers of all ages have allotted to the "in-itself." We will merely give *two* examples which show how dangerous it may be that an apparently merely negative content should be bound up with this concept. I am referring to Eduard Hartmann and Paul Deussen. Eduard Hartmann elevated "the unconscious" to a principle: Deussen spoke of the principle of negation.(125) Both, according to their grammatical form, are certainly negative concepts. On closer examination we see that in both cases we are dealing with a sort of sublimated divinity, with whose existence, according to Deussen, certain duties are associated (compare Deussen, *Metaphysik*, p. 237), while Eduard Hartmann has erected a whole complicated system, in whose development, in spite of all its negations, highly arbitrary and positive motives are apparent. (Compare Mauthner, *Sprachkritik*, 3, 622.)

The example which we have adduced, and just discussed, of a metaphysical transcendence, is the sole example of a metaphysical principle which is really unobjectionable, because it proceeds from the hypothesis that the meaning of transcendence is really absolutely *negative*, and because we have not attempted to import into its domain any theistic or other arbitrary and positive motives.

What we are to understand in general by a metaphysical principle will be shown in the following section, in which we shall discuss the Absolute. We have retained this, after all, somewhat scholastic term for the Ultimate, or for the "agnostic metaphysical principle," which, in spite of all the criticism directed against it, has not yet disappeared from the philosophical literature of the present day. As a preliminary, or in conclusion, we should like to draw attention to a thought which

should throw a discreet and appropriate light on the whole discussion. Is it quite out of the question that our intellect, with its passion for always setting behind the external universe, behind phenomena, something immovable as a rock, something "existing in itself," something metaphysically real, as a gigantic background, may not go astray just as it goes astray when it cannot imagine the end of space and time, and consequently postulates a spatial and temporal infinity? I believe that the thought, if it once emerges, is not to be refuted: that the passion for seeing the universe as somehow doubled, and in the second instance as somehow more valuable and more stable, might almost be counted among the necessary evils with which our intellect has become burdened in the struggle for existence, and has long ago been exposed as a defect of the human intellect. I would even endeavour to divine the reason of this attitude of the intellect. Just as we ourselves are accustomed to subordinate all our undertakings and speculations to a considered plan, in accordance with which we work out the details, we believe that we cannot help foisting such a plan—even though it be unconscious—upon the whole world-process, which can then, metaphysically speaking, be designated a principle. The emergence of the idea of God, together with the origin of the far more discreet metaphysical principles, appears to be derived from this common source.

## (D) *The Absolute.*

### I. GENERAL AND INTRODUCTORY

The term most frequently applied to the Ultimate, the most commonly employed neutral, is the Absolute. We must examine this concept rather more closely, since in most philosophical writings of the present day it usually denotes the summit of human thought, beyond which one cannot proceed.

In defining the Absolute we may, of course, proceed in various ways. Even the dark epistemological mountain assumes many forms. We have already seen that we must on occasion stress its alleged unity. Then it appears to us, somewhat in the spirit of the Plotinian philosophy, as the *Hen kai Pan*

(which we have already discussed); at other times we emphasize its unknowableness. Thus we see that we have now a Greek, now an English, and now a Latin term available. In another direction we perceive the aspect of the Oriental designations; and in another, a mathematical formula. But for all these names and suggestions of content, this obscure concept is not yet exhausted. When we use the word "absolute" we think rather vaguely of a series of different, not very clearly distinguished qualities, in which a superlative trait is always inherent.

If we wish to dissect the concept critically, we must be quite clear beforehand that we must first comprehend the concept of the Absolute as a pure intellectual creation, and then, epistemologically, investigate the problem of its reality. After what has already been said, the reader will not for a moment doubt that our highest intellectual concept will be full of contradictions and fictions, and that as regards its reality we cannot proceed too cautiously—that is, too sceptically. In any case, we shall not get anywhere with unequivocal negations, whether we take refuge in agnosticism, transcendence, unknowableness fictivity, or other epistemologically negatively coloured terms. We shall soon see that thinking in these latitudes must of necessity lead *ad absurdum.*

In earlier chapters we have often spoken of *aspects.* These are moments in which one considers a real or alleged sphere of knowledge to which one cannot approach *closely.* The greater the number of aspects, the more clearly will the sphere of knowledge be illumined from many directions. It is, of course, in these latitudes, difficult, and even impossible, to mutually equate the many results derived from the individual aspects, and bring them under a common formula. But no one can reasonably expect that in this sphere. It is enough if a few light-rays of relative human knowledge make their way into this infinitely obscure region.

With regard to the Absolute, the problem of aspects is more complicated than ever. I do not think I can even maintain that the aspects from which we shall proceed can be simply enumerated, one after another, as though they were to some extent co-ordinated.

I should like to endeavour to discuss the Absolute, so to speak, in a *transverse section* and in a *longitudinal section.* In these two approaches special aspects are revealed. Just what is to be understood here by transverse and longitudinal cannot be stated unequivocally. Both expressions, of course, constitute feeble metaphors. One could just as well equate them with algebraical magnitudes, and one would say neither more nor less than is said by the terms I have chosen.

I think, if we speak of a longitudinal section, we shall associate with it the aspects which emerge in juxtaposition, among which I should count, more or less:

(1) The manner in which the concept of the Absolute has been *psychologically* formed, and such antinomies as arise therefrom.

(2) Whatever is *logically* imported into this concept, and such antinomies as arise therefrom.

(3) Whatever *epistemological* answer can be given to the question of its reality,(126) and finally,

(4) Something quite fictive from the highest realm of *metaphysics.*

These four aspects appear to me, metaphorically speaking, like four mountains standing side by side, each higher than the last. The two lowest, psychology and logic, stand in the full sunlight. The peak of the third, the epistemological mountain, is veiled in clouds; the fourth, highest, metaphysical mountain, is enveloped in complete darkness.

As regards the *transverse* section, we have already, in our earlier chapters, tried to explain the universe according to our three world-pictures. These were the sensualistic, epistemological, and metaphysical world-pictures. These pictures do not, of course, lie one behind the other, but are comparable rather to a passage which is closed by many doors, and in which it grows darker and darker as each door is passed. But we cannot manage with the three world-pictures alone. We must once more resort to the familiar mode of investigation, according to which it is possible to approach the Ultimate only by way of the external world, or through the individual *ego.* In other words, the three world-pictures must be com-

bined with the already familiar methods: the solipsistic and the materialistic.

## 2. THE ABSOLUTE IN LONGITUDINAL SECTION

After this investigation we shall be able to face the superlative concept somewhat more critically.

Let us begin with the longitudinal section:

### (*a*) *Psychological*

Here we must first of all proceed from the standpoint of psychology. To this science we must apply for the origin of the concept or idea of the Absolute. In former times, especially before the epoch-making discovery of Copernicus, and the great achievements of Hume and Kant, this concept was unknown. Or rather, while the older philosophy had made considerable use of it, it was then considered to be so palpably near that men thought they were in daily contact with it. That the earth absolutely stood still, that it represented a fixed point in space which could not be displaced, was the then generally recognized truth. That our perception revealed the *absolute* truth, that God as an *absolute* Being reigned over the earth, and the perhaps rather larger universe, from eternity to eternity, was a fact which no one contested. Everyone was so firmly convinced of the truth of the general conception that the problem of modern epistemology, whether we can know reality at all, could not even be stated in the language of the period. That there could be any question as to existence, change, being, space, and time, and so forth, was in those days almost incomprehensible.

It was the epoch-making discovery of Copernicus that first led men to suspect that the earth stood still only relatively, but was in reality in motion. Thus, for the first time two conceptions could be quite scientifically opposed to one another: relative rest and absolute motion. Men began to realize that mankind might be subject to delusions which ought to have become obsolete centuries earlier. Later they extended the Copernican fabric of the universe, and came to understand

that not even the sun—hitherto the central point of the universe —was standing still. Presently it was realized that in the inexpressibly or infinitely great universe nothing whatever stood firm, but that everything must be regarded as in constant progressive or rotatory movement. What this discovery meant for the evolution of human thought is obvious. The realm of the relative continued to grow, and the alleged Absolute was increasingly degraded to a human demand, to a longing. At most one could say: if in the world of sense we encounter only the relative, the universe as a whole may still be conceived as an absolute. But there was more to come. Matter, which was formerly accounted an unconditional and solid basis of every event, began gradually to totter, and was replaced by the much less palpable and much less intelligible "energy." Slowly the whole world of sense dissolved into mere waves, radiations of various kinds, and the once so solid matter is now explained as only "congealed radiation." How far we shall yet advance in the direction of the dispossession of matter cannot be foreseen. Here we must include Kant's attack upon the existence of the external world, which dissolved into phenomena, so that even in the epistemological sphere nothing was left unshaken. Religious doubt—delivering a parallel attack—worked its destructive will upon the most rigid and venerable conceptions; and not only upon the more or less dubious content of the positive religions, but also upon their firmest pillars: the belief in being and substance gradually dissolved, and the props which had been thought so firm proved to be sublimated anthropomorphisms abstracted from our *ego*-sentiment. The work was completed by the slowly awakened criticism of language—especially by Fritz Mauthner's brilliant work, which succeeded in exposing the metaphorical and fictive character of most, and indeed, in the deeper sense, of all human words and concepts.

Once it was established that the Absolute had really vanished from the external and internal world, there was an awakening of the never quite extinguished longing of our ethics, aesthetics, religion, and all spheres of thought connected therewith, to provide some kind of firm foundation, some solid point of

departure. From this longing arose the countless—and more or less unsuccessful—attempts at a so-called *Verabsolutierung* (artificial construction of an Absolute), which found expression more especially in ethics, but also in logic, and should have been abandoned for some decades at least. We need not emphasize the fact that all these attempts have come to grief and will always miscarry. There is much that we cannot understand, and very often the will to understand is lacking. But it is gradually becoming hardly respectable to speak of an "absolute" value, an "absolute" knowledge, or an "absolute" truth. These phrases can no longer occur in a really critical work. We must gradually wean ourselves from speaking of the Absolute in a positive sense.(127) Our attitude towards the Absolute will be—according to the temperament of the thinker—one of sorrowful resignation or biting irony.(128) If, however, it is impossible still to believe in the Absolute in this sense, it will nevertheless be long before the human yearning for a fixed point, for some sort of reassurance, comes to perceive the impossibility of its efforts in this direction, and makes an end of them. For a long time to come well-meaning benefactors of humanity will present us with various positive systems in which the Absolute will still play a great part, as though it had not been finally destroyed by Hume and Kant, Vaihinger, Mauthner, and Einstein.

But psychologically we are far from having done with this concept. Even granting that there is no Absolute in the ordinary sense of the term, we know by experience that our intellect is subject to the irresistible urge to think out all intellectual problems to a conclusion, so that in thought, at all events, it must arrive at some such final constructions.(129) Psychologically the concept of the Absolute seems a necessity, indeed we may perhaps go even farther, and say that all imaginable intellects which the universe will ever allow to emerge will form their concept of the Absolute, in which the Superlative, as a common function, must be inherent, but which, according to the biological conditions of the actual thinker, may of course differ very greatly. Hence we must assume that there must be a plurality of *concepts* of the Absolute, without anticipating

the problem as to whether, epistemologically speaking, there can *be* an Absolute in the sense of these psychological constructions.

According to the view of many recent critical philosophies we must deal very strictly with the concept of the Absolute, since it may mislead us into grave intellectual errors, and the formation of false concepts, if we are not sufficiently sceptical of it. The conception of the Absolute is pretty generally held to be an intellectual delusion. Here, for example, is the standpoint of idealistic positivism as represented in the *Als Ob* philosophy of Vaihinger. According to Vaihinger's view, which can be refuted only with great difficulty, the human intellect falsifies reality, which consists merely of "co-existences" and successions of sensations—or phenomena—through the formation of general concepts, which lead to contradictions. The more general the concept the more unreal, the fuller of contradictions, the more subjective. What is subjective is fiction. Only the objective has the right to be discussed and treated as a hypothesis. Consequently Vaihinger regards space and time—since they delude us into forming the concept of infinity, which leads to contradictions—as subjective products of the mind, and as fictions. According to his view the concept of the Absolute is in a still worse case. This concept is burdened on the one hand with the idea of infinity, and on the other with the hypothesis of a metaphysical existence in the highest sense of the word. As a combination and development of these two notions it has to some extent borrowed fictive elements from both components, and is only fiction. We can speak of it only *as if* it were, but must never believe, even conditionally, in its possible existence.(130)

At this point something further may be said of the so-called *extraversions*. Every S imports into all its speculations a great deal that is subjective. Thus the complexion which the concept of the Absolute must receive is very largely subjective. So long as people were not sufficiently critical to curb the free course of their imaginative faculty, they formed the gods (that is, the old edition of the Absolute) entirely after their own image. With progress the tendency to this personification of the powers

of Nature was gradually counteracted. Divinity lost more and more of its corporeal qualities where doubt began to take root; it retained, however, the *spiritual* qualities of man, which were sometimes distorted by infinite magnification, since on the whole they were not so exposed to doubt. This continued for a long time, until it became clear that an *ego*, or rather, an individual consciousness, whose inner content consists in the antithesis *ego* and non-*ego*, is and always remains only a part of the whole, and can never be the Absolute. All personally conceived divinities suffer the same fate, that in comparison with the concept of the Absolute they are always diminished. We know the spiritual life only from our own experience. However greatly we mechanically magnify it, the magnified consciousness ascribed to the assumed god is still a mere point in infinity. Logically, a consciousness must always be finite. The mathematical value corresponding to it, however great it may be, is related to the infinite as *one*, the starting-point of the numerals.

But of recent years we have become rigorous in respect of extraversions. We have discovered these forms of thought, for instance, even in concepts which have in some degree persisted down to our own days as pillars of scientific thought. For example, if I speak of a substance, of a thing, I have always before my eyes a bearer of qualities, a substratum of changes, something in which a quality or an activity is to be observed. If I analyse external Nature, and imagine an object divested of all qualities and changes, precisely nothing is left. Formerly it was maintained that substance was left. We have transferred this substance into objects from our *inner* experience. It is nothing more than the vague sense that to ourselves we seem "someone," that we possess the *ego*-sentiment. Thus, we imagine that if we were to lose all our qualities, and if no further changes occurred in us—whether active or passive—we should still exist as an *ego*. This feeling is, of course, a necessary illusion, which we require for the preservation of our life, and which results from our memory. But we must not elevate this sense of existence—recognized as an illusion—into a "substance," and introduce it into inanimate objects,

or into the general concepts which we have formed with the help of our intellect. Substance is unmasked as nothing more than our modified *ego*. Between the personification of trees and hills by pagan antiquity and the philosophers' belief in substance there is only a difference of degree.

Thus the verb "to be" is merely an expression of our existence, of our sense of life. Fundamentally it differs from the feeling which led to the formation of the substance-concept only in the fact that in the latter we have laid more emphasis on the real, but in the former on the temporal character of our sense of existence. We have not only the feeling that we are, so to speak, a living thing, but also the feeling that our life continues for some time. Consequently we have evolved one and the same notion—for there can be no question here of exact concepts—for the *real* expression of substance, and for "being," felt as a verb.

If we think of extraversions, we have no choice but to compare them with material things. For example, we gaze at a Chinese temple, with its grotesque charm and its little bizarre ornaments, and compare it with the ponderosity of the Egyptian pyramids, or the upward aspiration of the Gothic steeples. Here three human minds have sought architectonic expression for approximately the same thing, but how different are the results! In architecture the differences can rapidly be verified. But it is not so obvious that in the sphere of the intellectual sciences—especially where one goes far beyond sensual experience, into so-called metaphysics—every thinker must envelop his inherently similar ideas in quite different subjective wordings.

As a summary of this psychological analysis we can at least offer the negative result, that a concept of the Absolute as the Ultimate, as something unconnected, uncaused, entirely independent, a superlative concept embracing the whole of knowledge, is unavoidable; but that as long as we exercise a certain self-criticism it is intellectually impossible to make any statement as to its positive content. It is a limit-concept, a necessary aid to thought. Empirically it is a fiction. What we can say about it speculatively will emerge on further investigation.

(*b*) *Logical.*

We will now attempt to examine the Absolute, considered as concept, rather more closely from the *logical* standpoint. Considered as a concept we understand by the Absolute something like the following:

(*a*) The Absolute as quantity:
  (1) As the sum of the universe, proceeding from O or from S, according to our mode of approach, but always in the serious endeavour to comprehend everything conceivable.
  (2) As unity.

I think we cannot escape the notion that somehow or other all that is, was, will be, can be, or is imaginable or conceivable, must form some kind of *total.* Mathematically the formula which we have already more than once employed—$\Sigma\, \infty$—is appropriate. This formula may also be written in a more complicated form, as $\Sigma\, \infty$ of all $\infty$, since methodically we are forced to recognize infinities of different degrees, stages, and complexions.(131) This aspect of the Absolute, grasped in a purely mathematical fashion, seems, by reason of its simple and abstract character (as we shall presently see) to be the least fictive. We cannot begin by explaining the sum of all being as fiction. However great the temporal and spatial infinity, however profound the unknowable, however rich the possibilities of thought, the total sum, one would think, would still be conceivable, even though unimaginable. Nor should we exclude the thought that it is intellectually possible to comprehend the sum total of the existing, the possible, the imaginable . . . as a *unity*, and to direct our attention to this intellectual formation. Epistemologically indeed, as we have explained, we have no great opinion of this unity, holding the notion of representing the world as a unity, this unifying tendency of our intellect, as a kind of psychological compulsion to achieve by unification an easier orientation amidst the multitude of phenomena. This instinct for unification, if I may so call it, can be followed to excessive lengths, even to the point where thought must of necessity cease. To these in-

stinctive efforts, to the longing to comprehend in a unity all that is, without regard to the divergent tendencies of individual representations, little objection can be made, in view of the fact that they do actually exist. But we must not accept the final result. We must not adore it; we must not affirm this unity, we must not attach too much importance to it. When men learnt for the first time to imagine the cosmos as a unity, they were impressed by the supposed magnitude of this representation, and they literally and intellectually bent the knee to it. But nothing of this sort ought to happen in a critical age. This unity or unification is only a *privatio*; it is of purely negative origin. It is an abstraction carried to an extreme point: if we imagine everything absent from the universe except the thought that it exists, only this thought remains. Let us ignore all the differences of being, all the multiplicity of the universe. What remains? At the first glance one would think that nothing remained. But if we consider more narrowly that the universe *as such* cannot be intentionally and artificially imagined as absent, there remains the faded symbol of the "one," or of unification, which of course exists only in our mind, and can only be the superlative of the levelling, abstracting activity of our intellect.

The thought of the Absolute as the sum of the universe presents, of course, an intellectual difficulty. Somewhere, quite hidden, is the notion of a *subject*, which decides what belongs to the sum total and what does not. So, of course, the idea of any sum total is of psychological origin. But if, having completely suppressed this notion, we confined ourselves to the purely mathematical expression of the formula, the formula thus arrived at is assuredly comprehensive, but on account of the impracticable nature of the presuppositions needed for the actual ascertainment of its content, it is quite *fictive*. If we are to read the formula rightly, we must do so as follows: we must think of the sum of all things possible and actual, known and unknown, as though this sum were really ascertainable. There is always the danger that one may include in the subconsciousness a possibly superhuman subject, which would, so to speak, lump together all things existing and possible, and then explain

that this was *all*, that there was nothing more. We can never entirely avoid thus mentally clouding our quantitative formula. At best it gives the formula a fictive complexion. Nevertheless, on account of its simplicity this mathematical aspect is the best, and, if I may say so, the *least* fictive aspect of the Absolute. We must reflect, however, that the Absolute must be far more than infinity and eternity. Infinity is usually grasped spatially, and subconsciously we always ascribe to it merely the three Euclidean dimensions. Time has one dimension, but the Absolute might perhaps have an *infinite* number of dimensions, since it is part of the conception that nothing can be thought of which does not belong to it, which is not a part of it. Thus in this sphere the difficulties become greater and greater.

(*b*) The Absolute as quality:

Under this heading come the various syntheses which we are forced at one time or another to import into the concept of the Absolute.

(1) The synthesis of S and O:
  (*a*) the *ego* and the non-*ego*,
  (*b*) the animate and the inanimate,
  (*c*) the conscious and the unconscious,
  (*d*) the personal and the impersonal,
  (*e*) the psyche and the physis.
(2) Unity and plurality,
(3) The actual and the possible,
(4) Many other syntheses conceivable to us,
(5) Many other syntheses conceivable to conceivable subjects,
(6) All other syntheses, even those impossible of conception by conceivable subjects, or syntheses quite impossible of conception by any subjects.

The reader will see that the alleged content of the Absolute consists on the one hand of different polarities, which have to be brought together in a unified whole, and on the other hand of propositions which belong rather to the sphere of precaution. We must take care that the limits of the highest

concept are not too narrowly drawn. We should prefer to avoid the risk of having subsequently to postulate spheres which had, so to speak, been forgotten. From these speculations it results that it is possible, and indeed necessary, to postulate a concept in which things that according to experience cannot be unified must nevertheless be somehow equated or unified, but, on the other hand, this concept grows into an impossible hyper-abundant monster, so crammed with content that it can but become a greater and greater fiction. Herein it shares to some extent the fate of the scholastic idea of God. In former centuries so many superlative qualities were ascribed to God that they contradicted one another, and could not be brought into harmony amongst themselves. But here this occurs in a much greater measure. We have of course escaped the burden of one very ponderous motive, since we do not ascribe essential personality to our Absolute, being concerned only to equate this concept, within its framework, with its opposite. The endeavour to comprise everything divergent in a higher synthesis in the concept of the Absolute is represented in modern philosophy chiefly by Müller-Freienfels, who in his *Metaphysik de Irrationalen* deals exhaustively with the Absolute as a synthesis, principally of S and O. We should like to point out, however, that the greater the synthetic labour demanded by this super-concept, the more obscure does it appear, and the more infallibly does it take refuge in the pure transcendent, the epistemological negative. We will not repeat what we have already emphasized in the discussion of the transcendent. I think, however, that it would be more correct to insert all these syntheses not in the concept of the Absolute, but rather in that of the transcendent—with conscious emphasis on the negative character of the transcendent, to transfer them to the conception of the pure transcendent. We make this statement here, where we are simply subjecting the concept of the Absolute to a logical analysis, without even touching the belief in its reality, for the concept as such becomes badly damaged, and gradually inconceivable, if we ask too much of it. And as matters now stand, the Absolute differs from the transcendent, of which we always think as being dark and obscure,

by its certain positivity. One still believes that the Absolute must somehow be real. If we look a little more closely at the individual polarities already enumerated, we see that the antithesis between S and O occurs in a fivefold form. All polarities have much the same meaning, but are derived from different world-pictures. The antithesis of animate and inanimate comes from naïve realism. The difference between psyche and physis is really the same thing, but by virtue of its abstract nomenclature it is already evolving into the sharper distinction of *ego* and non-*ego*, which is peculiar to epistemology. The distinction of conscious and unconscious is derived from psychology; that of personal and impersonal is an abstraction, current in the philosophical sphere, of the empirical polarities of animate and inanimate, of conscious and unconscious. Between the unconscious and the impersonal there are mental transitions, which are not apparent at a first glance.(132) With the actual aspect of the problem of bridging these antitheses we have dealt more than once in the course of this work, and will not repeat what has already been said.

The concept of the Absolute is a concept of longing: we dream of a mental construction of such a nature that it would somehow absorb into itself the antitheses so necessary to our thought, and blend them into a unified conception of the universe. Unfortunately it is not possible for us to attain such knowledge. Hence we have established a limit-concept, a super-concept, to whose infinite realm we transfer all insoluble problems. In this form the Absolute also would be—if we may refer to the well-known expression of Spinoza—an *asylum ignorantiae*. The fact that the Absolute is supposed to constitute a super-concept for all the bifidities of human perception is, on the other hand, obvious enough to nip in the bud any attempt on the part of one of any two members of an antithetical pair to fill the whole content of the concept. Such an attempt has already been alluded to above: namely, the attempt to identify the consciousness alone, or another *ego*-like entity, with the entire Absolute; or in other words, to assert that an *ego* could be equated with the Absolute, whereas it must always remain only a part of the Absolute. This is

the error of all the theistic religions, in so far as they lay claim to the absolute character of their supreme Being.

Over and above the polarities, we adopted what will at first sight seem curious precautionary measures, in order to make the concept of the Absolute as vast as possible, and to understand it as cautiously as possible. We must proceed from the standpoint that subjects may exist of a nature unlike our own, and that for them thought would point to other polarities than is the case with us. Theoretically considered, there may even be polarities which can be realized by no subject conceivable to us. In the logical picture of the Absolute nothing should be forgotten, even with regard to these imaginary syntheses.

(*c*) The concept of the Absolute implies the exclusion of every relation. The Absolute must be thought of as without relations to anything else which could possibly be thought of as outside it. It is inherent in the nature of the Absolute that there can be nothing outside it. We, of course, know nothing other than relations. If we postulate our concept correctly, it is part of its most essential content that every relation, of whatever kind, must be excluded from it. That such a concept must remain fictive has been already stated, but here, at this most significant point as regards the essential nature of the Absolute, it must be especially emphasized. Regarding it from this standpoint we might very well describe the supreme concept as the fiction of all fictions. Although it has already been shown that an adjustment of all conceivable polarities can only be fictive, the character of the Absolute in respect of its lack of relations must likewise be emphasized.

(*d*) A further pecularity of the concept of the Absolute is that it must have a *metaphysical* reality, that it must be actual, real, "in-itself;" at which our logical investigation is already invading the domain of epistemology. On this point we shall have something further to say. Here we can only emphasize the fact that the Absolute must always be something "more" than the "in-itself." If the "in-itself" were equated with the pure object, then the Absolute—as has already been shown—must at the very least be equated with an O + S, or rather with an O + S + $q$, where $q$ (for the sake of precaution)

means everything which is anyhow conceivable apart from O and S, or conceivable in respect of other conceivable subjects. (Compare pp. 292, 295, 303.)

At this juncture I should like to do something to elucidate certain conceptions. By "metaphysical" we understand always the real, without regard to the perceiving subjects, in the sense in which the real is understood in the Upanishads, in Plato, or in the most recent philosophy; for example, by Hans Driesch, in his doctrine of reality (*Wirklichheitslehre*). If, however, the metaphysical existence somehow clothes itself in the "being in itself," and if metaphysical being, like "being in itself," is understood in the sense of "real being," it must nevertheless be emphasized that the Absolute—which must be both metaphysical being and being-in-itself—is yet somehow and in some respect surpassing. We have already endeavoured to indicate that the so-called "in-itself" can claim no precedence over appearance, and that even in this sphere it must not be valued. However, many thinkers have adopted the view that in the Absolute, as the highest concept, a certain higher value is inherent, which ought not to be awarded to merely epistemological concepts. I should not willingly agree to any valuation here, or to the introduction of values into a realm of pure being. I concede that the Absolute is felt as something "more" than metaphysical being or "being-in-itself." I would, however, conceive the second component only as a *more*, and not as a *better*, so that every attempt at a valuation in this sphere may be excluded at the outset. Hence we repeat: the Absolute is perhaps to be understood metaphysically, "in-itself," for human sentiment will not remain satisfied with its mere conception as a psychic formation. This postulate has, of course, as little to do with actual reality as St. Anselm's ontological proof of God. From the qualities of a concept nothing can be concluded as to its existence. But, as has already been said, logic—or rather human longing—in its striving towards the Ultimate, will not be satisfied with the mere reference to the postulate of the metaphysical existence of the Absolute, or the mere equation with "being-in-itself." If at these heights a mathematical equation were

admissible, one might perhaps say that the Absolute is like an addition consisting of at least two members, of which the first term would be metaphysical being, to which a second term (Q) must be added, whose content cannot be unequivocally stated, but whose enormous magnitude must be exalted beyond all human thought.

(*e*) Inherent in the concept of the Absolute, however, is its *incapability of completion.* However critically we regard the Absolute, it always appears to us as an O which has not completely absorbed the observer S. If we assume that no actual observer is in question, this is a standpoint inaccessible to our thought. Unfortunately we have always some kind of S in our subconsciousness, however we may try to suppress it. This incapability of completion will, however, become more apparent when we come to deal with the antinomies which logically arise from this superlative concept. Some of these will cause us positive mental torture. Already we find ourselves unable to get over this first difficulty of an O without an S. Here more than ever the fictive character of the concept is apparent. We might almost say, that the more incapable of completion the concept appears, the more fictive it must be. And in the Absolute this fictive character appears at its maximum. We certainly need the Absolute in our thinking, but we cannot get away from the fictive in its manner of conception.

(*c*) *Epistemological.*

Now we come to the most important part, to the *epistemological* judgment of the Absolute. To begin with, it must be emphasized that we have only phenomena. Every S has only phenomena. For all conceivable subjects there exist only phenomena. But the Absolute is something other than a phenomenon. It *insists* on being more, by virtue of its whole conception. The Absolute is the Something alleged, sought for, dreamt of, hoped for, *behind* the appearance. From these psychological, concomitant phenomena a sort of axiological component of the Absolute would emerge if we could admit its validity in this sphere. But as we have just explained, we must beware of valuations, however obtrusive they may become.

Consequently we must represent anything which looks like a value in a more discreet fashion, as merely a "more."

The epistemological problem is, whether there is anything —behind phenomena, and eternally concealed—which somehow evolves the phenomena; something intransient, uncaused, unrelated, and perhaps unchangeable in the vicissitudes of the eternally changing appearance. Berkeley maintained that there is only conscious spirit, only appearance, behind which, of course, stands God. With Kant this tremendous background has faded into a thing-in-itself; for us this background has faded still farther into an auxiliary or working hypothesis of a reality transcending our consciousness. In another chapter of this work it will be shown that no special value attaches to this presumable $x$ behind appearances. The "in-itself" is not to be regarded as a sun, compared with the planet of the world of appearances. This sunlike, supremely valuable "in-itself" would be out of place in epistemology.

But the Absolute is something more than a mere thing-in-itself. We have seen that it insists on being a superlative concept. As it now hovers before the minds of innumerable thinkers, it embraces not only the reality of the "in-itself"—which, continuing our metaphor, is not to be thought of as sunlike—but much *more* than this, and in this "more" that "sunlike" is for many thinkers included and understood. We have dealt mathematically with the demand for a "more," so that we speak only of a magnitude and not of a value. But this second component, even if axiologically attenuated, refuses to be eliminated from human thought. As a third term is added our pitiful world of appearance, which somehow exists and must be included in the Absolute. Hence the formula of the Absolute, if we accept this standpoint, would be somewhat as follows:

$$(a_1 + a_2 + a_3 \ . \ . \ . \ b_1 + b_2 + b_3 \ . \ . \ .) + i + I = A.$$

The first sum comprises the appearances of individual subjects. It can of course be protracted to an unlimited extent. The $i$ is the imaginary magnitude which corresponds to the "being-in-itself" which we have postulated. The $I$ is the second

imaginary magnitude, which gives us approximately, so to speak, the axiological component which we have transferred into the sphere of mathematical magnitudes. Elsewhere we have represented this magnitude by *q*. If we prefer to write *I* here, it is merely to emphasize the imaginary character of this magnitude. (Compare pp. 290, 293, 303.)

This Absolute dreamt of *by us* must therefore, if we intend to be thoroughly discreet, be *at least* "in-itself." To say anything about its reality is of course impossible. Already, in anticipation, we may *heuristically* declare that the result will naturally be negative. We can say and postulate what we like. But the moment the psychic construction has to be translated into reality—which must always be "in-itself," for a reality not being-in-itself is no longer a reality—we perceive the hopelessness of such an attempt.

The requirement that the Absolute—as we have logically grasped its concept—shall be *real*, that there shall be some kind of background behind appearances, and the like, with some kind of positive existence of our superlative mental creation, is of course out of the question. It is quite impossible to believe in such a rich, positive object of thought. We relegate it to the realm of fiction, the realm of pure transcendence, the realm of agnosticism, which indeed still amounts to stating something else, but here again the negation is always the more obtrusive. Whether it is merely that we ourselves can have no positive relation to the Absolute, or whether there is no such relation at all, cannot be established, but neither can it be unequivocally denied.

Now we are entering the realm of the antinomies,(133) for anything that can be said in these latitudes is beginning to be completely *indefinite*. In order to see our way more clearly, in order to arrive at a logical result, we must thoroughly discuss the antinomies of the Absolute. That we do this now for the first time,(134) instead of including them in our logical discussions, may seem at the first glance somewhat surprising, since every kind of antinomy, as a pure subject of thought, belongs to a logical sphere. It is otherwise with the Absolute; in fact, we must concede that the investigation of the anti-

nomies of the Absolute—which must at the same time decide the problem of its existence or non-existence—has its real place in the epistemological sphere. For this reason I considered it advisable to consider the antinomies of the Absolute first in the epistemological section. They may be divided into *two great groups*. In the first group are comprised the quantity and the qualities of the Absolute: in the second its "in-itself," its unrelatedness, and its psychological origin.

THE FIRST GROUP OF ANTINOMIES.

1. The antinomy (arising from the quantity of the Absolute) of the S concealed therein, which cannot be suppressed, has been already discussed. (Compare p. 284.)

2. The principal antinomy, which can be inferred from the qualities of the Absolute, arises from the notion that one must mentally place *everything* in the Absolute, without *discovering* anything in its realm. We are compelled to assume that the Absolute embraces everything; but on the other hand, we must not attempt to determine its content more closely. To this quality or this antinomy the old Plotinian designation *apoion* or the Indian *neti-neti* is appropriate; but these words convey no explanation; they state simply that here is something unknown, which must of necessity lead us to the realm of negation, or rather to epistemological resignation.

3. In the third place we shall consider the antinomy first discovered, I believe, by Herbert Spencer, and turned to account by Hans Vaihinger in his *Philosophie des Als Ob*, p. 115. The laws of thought definitely prohibit us from forming a concept of absolute existence (in this connexion one means by these words nothing other than the Absolute), but at the same time these same laws of thought hinder us from ridding ourselves of the consciousness of absolute existence. This means, in other words, that our intellect is so organized that it categorically postulates an Ultimate as the intellectual conclusion of its speculative activity; although, on the other hand, it must be aware that this is an unpermissible transference of mental operations, which in the lower strata of individual things and daily experience are possible and economical, but

which should not occur in higher spheres, in which no place can be found for such operations. This vacillation is characteristic of the general psychic situation of the thinking man in respect of the superlative concept.

4. From the contrast between reality and possibility, which are mentally incompatible, and yet must both belong to the realm of the Absolute, arises a further antinomy, which in its profounder meaning shows that the elaboration of this mental opposition makes the concept of the Absolute incapable of completion.

5. The further antinomy arises from the already-mentioned relation between S and O. In the Absolute there must indeed be added a third term, Q, which cannot be more nearly determined, since we must think also of other intellects, and not of ours alone. The simultaneous combination of S and O is of course extremely difficult, or rather impossible, since it must lead—as we have already seen, and shall see again—to the absurdities of the solipsistic or even of the materialistic method. The two principles can never be reconciled, and undesirable consequences are in both cases inevitable. We shall not go into this matter at present, since later on (p. 298) it will be more thoroughly discussed.

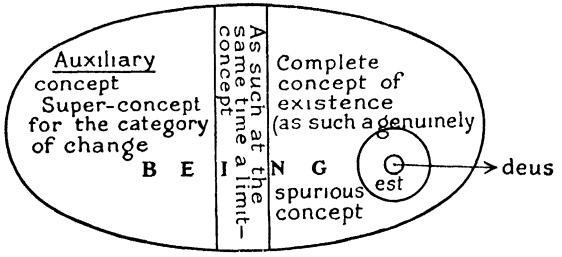
6. Yet another antinomy arises from the incongruity between the abstract "being," which is necessarily ascribed to the Absolute, and the empirical fact of the constant changes in the reality of experience. This incongruity compels us to assume that, on the one hand, what we suppose to be behind this reality of experience must also change, while on the other hand it leads to the logical difficulties of the so-called timelessness of the Absolute. This timelessness is often used as a way of escape from the dilemma. But it will always be emphasized that it is inconceivable, and must always remain so for our intellect. It is one of the *asyla ignorantiae* of which we have often spoken. The difficulty which leads to this antinomy lies in the conceptual sphere of the verb "to be," which sometimes represents a very harmless conjunction (*copula*), and sometimes contains a harmful spurious conception. Psychologically the verb "to be" originates from the

conception of one's own existence, the complete abstraction of all change, and the emphasizing of the mere eventless time-duration.(135)

The verb "to be" as *verbum existentiae* is an empty husk, a spurious concept. It is a verb merely in form. In reality it is the kingliest of all substantives. In the course of this work we have already exposed the emptiness of this super-concept of all the verbs.(136) Epistemologically, there is in the verb "to be" this dichotomy: that the S-philosophers identify the concept of "being" with the concept of "being perceived," while the O-philosophers identify it with the concept of "being able to be perceived." The O-philosopher assumes that the object existing outside consciousness can be perceived at any time, if the attention of the subject is directed to it. The S-philosopher sees "being" only in the "being perceived" of the object. The object exists only in the consciousness of the subject, and so soon as it exists there no longer, its existence as such ceases entirely. From these two conceptions something of course arises which cannot be brought under a common denominator. What really "is"—so we must think—cannot depend upon whether anyone just happens to perceive it or not. For this reason, ever since Plato's time, and most likely much earlier, the philosophers have always spoken of the so-called "metaphysical being,"(137) which belongs primarily to the Absolute, and which represents its most important condition, its most important attribute.

It is hard to say what kind of philosophy best solves this antinomy. We grant that the S-philosophy gets over this difficulty the more easily, since it entirely rejects the past and the future in the epistemological sense. But this is a mere appearance. The rejection of the past and the future simplifies the position for the moment, but since one cannot so easily pass on from the actuality of the past and the future to the order of the day, by this momentary relief and simplification the S-philosophy is led still more deeply into its well-known *cul-de-sac*, where it ends by accepting not merely solipsism, but the still narrower standpoint of the solipsism of the present. Let us be under no illusion: here, in the S- as well as in the

O-philosophy, there are insurmountable difficulties. Yet one cannot say that "being" is merely a spurious concept. It is in fact an auxiliary concept, a category, a general concept, a super-concept for all changes, which results from the abstraction of changes. An originally perfectly harmless word has grown, through the accidents and caprices of grammatical development, into a mysterious verbal monster.




The verb "to be" as a copula is out of place here as a concept.

### THE SECOND GROUP OF ANTINOMIES.

These antinomies are classified as follows:

(A) The Absolute is at the same time "in-itself," and also *more* than "in-itself;" ultimately it is also an appearance. From this antinomy there is of course no way of escape. One must surely think of the highest concept as "in-itself," for what would be "in-itself" if not the Absolute? The normal "in-itself" is equated to the pure object, the assumed, transcendental, *ego*-free Being which in its purity is not clouded by any sort of obscurity due to a fortuitous subject. The Absolute is also at least a synthesis of S + O, that is, it is a something in which the pure object is equated with something no more conceivable. Not, perhaps an O and S somehow in contact, but a something which at the same time represents the super-concept for the two categories which cannot be united in the human intellect. But on the other hand the Absolute is a sum of everything which exists in any way whatever. There can be no doubt about the existence of appearances. If the Absolute unites everything in itself, and if there is nothing which can be thought of outside this con-

cept, the appearances must also be thought of as incorporated in its concept. If it contains everything, then it contains even human errors. We shall presently see what results follow from this.

(B) The Absolute is void of relations; it is not relative. Yet we know only relations. Now we have to imagine something (cf. p. 283) which is to be somehow without cause, without relation, unconnected with us or with any other concept. We must think of something uncaused and unrelated as its content —and with our human intellect we cannot possibly do it. This can be expressed in other words: the Absolute finds its place in metaphysics as its chief, indeed its only content. Metaphysics, if there can be a metaphysics, contains pure concepts in the style of negations: uncaused, unrelated, etc. In the sense of our human experience and our human speculations we cannot believe in the real existence of these negations, and on the other hand we are forced to look for something of the sort behind relations.

1. If we think of the Absolute as utterly void of relations to ourselves—as it would be if it existed—it must be completely obscure, entirely unknowable, utterly transcendent. And not only transcendent in the broader sense of the word, but purely transcendent in the narrowest sense.(138) The Absolute consists of an immeasurably great, dark region; but if we know positively anything whatever—however little it may be—and if the sphere of our knowledge finds a place in it, we must think of the Absolute as at least partly "white," partly known. But what are we to do with this small, bright, white, positive part, which does not lie in the pure transcendent? Mathematically the antinomy may be expressed as follows:

(*a*) The Absolute is "in-itself." All "in-itself" is pure transcendence; hence the sphere of the Absolute coincides with the sphere of the concept of the pure transcendent. $A = T$.

(*b*) The Absolute embraces everything. There are spheres, accessible to us, which do not form part of the pure transcendent. From this quantitative conception of the Absolute arises the inequality $T < A$.

(*c*) Especially in the Indian philosophy we are familiar with the image of the Absolute (Brahman), immersed (so to speak)

in the ocean of the transcendent. This comparison is based on the grammatical feeling that in the proposition "the Absolute lies in the transcendent" the Absolute functions in a sense as the subject of the sentence, and the transcendent as the predicate. The realm of the predicate is always larger than that of the subject, which is really included in the domain of the predicate. In this sense too we may speak of the inequality $T > A$. If we concede that it is inherent in the nature of A—and must be inherent—that there can be nothing which is greater than A, and if we further concede that very many of the motives in this antinomy can be eliminated by an adequately lucid understanding of nomenclature, we are obliged to admit that there is a certain justification for this view.

2. From the conception of the Absolute there also arises—it goes without saying—the antinomy between the *ego*-related and the non-*ego*-related. This is of more importance for the S-philosophy. If the sum total of all being is logically equated with the *ego*-related, then the non-*ego*-related must be as logically denied, and the way stands open to the "microscopical Absolute" and to solipsis. If, however, we do not proceed quite so logically, if something "else" is recognized apart from the *ego*-related, this is an inconsequence which no S-philosophy that does not wish to remain solipsistic can surmount. The O-philosophy is exempt from this painful alternative, since from the outset it recognizes the presence of the *ego*-free reality, or at least assumes it. It is, of course, quite incontrovertible that the problem cannot be solved in the O-philosophy either.

3. The following is yet another example of this kind of antinomy: We are compelled, as was shown on p. 292, by the laws of thought, to introduce a motive of axiological origin (I) into the concept of the Absolute, but these same laws of thought forbid us to look for even the slightest value, the slightest axiological motive, in the concept of the Absolute, and much less to find it. Every value—every axiological motive, that is—is always *ego*-related, but the Absolute is beyond every relation. (Compare pp. 292 f., 295, 303, 305.)

4. The Absolute is to be thought of as without relations;

not *ego*-related, and not S-related; it can enter into relations with no S, and cannot be content of consciousness. Hence its complete "beyondness;" in the true sense of the word it is *nihil ad nos*. But since on the other hand it must be a $\Sigma \infty$ of all $\infty$, and since our S and all S's form part of it, and cannot be excluded from the $\Sigma \infty$ of all $\infty$, the Absolute, the "beyond," is also "here"; from which, to thinking, serious difficulties arise. We find similar ideas in the Upanishads, though without this clear formulation of the contradiction: the *Brahman* is of course unknowable and "beyond," and at the same time one with the Atman, the individual soul. By this final equation the problem leading to the antinomy mentioned is in a sense eliminated. To us, of course, the matter does not seem so easy of solution, and the cleft within the supreme concept appears to be unbridgeable.

(C) The following, final antinomy must be defined as a *psychological* one. It also occurs, of course, in the logical sphere. We call it psychological because it has its origin, on the one hand, in the human tendency to represent the Absolute as something resembling the *ego*, as an extraversion of the individual *ego*—compare also the Indian opinion as we see it in the preceding antinomy—and, on the other hand, in the necessity of thinking of the Absolute as *toto genere* distinct from our *ego*. This tendency is delusive and dangerous in proportion as it is veiled and unconscious. Once we are aware of its origin it cannot seriously deceive us.

It cannot be denied that every subject imports something into its mental images, which receive a colouring from this subject. The more primitive the subject, the more there is of this colouring. In the most remote period the Absolute—or rather, the highest thing that men imagined, for the Absolute in our sense was intellectually inaccessible to them—was entirely *ego*-like.

There were gods; later there was one God. But God was always an *ego*, with self-consciousness and memory; a Being like man, endowed with a kind of soul. *Ego*-free qualities were either entirely absent, or merely schematically outlined; later, with progressive criticism, they were only of a negative kind.

Humanity continued to follow the way of negation, from the *ego*-resembling God, through the white Absolute (presumed to be in some degree known), to the black Absolute lying in the pure transcendent of critical philosophy, as to whose reality nothing unequivocal can be said. But even in the more advanced and already critical stages of development, men could not entirely free themselves from their own personality. To-day they are so far advanced that they no longer create the Absolute in the image of their own *ego*; that is, they no longer have any use for an Absolute which in any way resembles the subject, and will not believe in it, but they are still incapable of mentally creating an Absolute which bears neither unconscious nor subconscious traces of its psychological origin. I wish it to be clearly understood that I make no exception of myself; I even believe that the longing to see the Absolute quite critically, as quite great, quite extensive, quite "beyond," quite *ego*-free, is inherent in the depths of my nature; and I believe, of course, that there are natures which have been satisfied to seek the Absolute quite near at hand, without standing too much aloof from it, and have been convinced that it was to be found thus near at hand. But the whole advance of human thought consists *inter alia* in this, that men have ceased all too modestly to look in the world about them for the superlative concept of human thought. I believe I am thinking objectively, correctly, and reasonably, when I constantly postulate the maxim that one cannot approach the Absolute too critically. To return to our original subject: most of the modern philosophers have gradually learnt to think of the Absolute not as *ego*-resembling, but rather as neutral and unconscious; yet even in this obscure and no longer *ego*-resembling sphere traces of the intellect at work intrude from time to time. To resort to a metaphor, I might liken a philosophical system to a leaning tower. Its deviation from the perpendicular may be almost imperceptible in the lower stories. The beginnings, and the simplest concepts (which are usually individual concepts) are too near the concrete for extreme differences of opinion to arise among thinkers. But the farther we venture the greater is the deviation from the perpendicular, which reaches its

maximum in the occasional formation of the highest concept. This explains why the *absoluta* of individual philosophers—in spite of the endeavour to maintain the most critical attitude possible—diverge so widely from one another. Above all, we must guard ourselves against two extraversions: the concept of *substance* and the concept of *being*. In the course of these speculations we have already had many opportunities of drawing attention to their origin. Both are sublimated anthropomorphisms; both have arisen from the personifying activity of our intellect, from the impulse to imagine everything unknown as *ego*-resembling. Man feels himself as a thing, as a bearer of his qualities, an accomplisher of his activities. Man then brings this thing-element into all the imaginations that he forms of the external world, even into his language. All substantives are framed consciously or unconsciously within an *ego*. Even the table is the bearer of its qualities. Even the table is a *someone*. Hence it is no wonder that man tries to introduce this abstraction of *thing-ness*, of the individual *ego*, into the highest concept. This is also valid for the concept of "being." We need not repeat that this represents the abstraction of the individual feeling of existence in temporal order of sequence, and is just as unreal as the whole *ego*-sentiment and the feeling of being a thing. Hence we refer to our above exposition of this subject, which is not an easy one to deal with.(139)

In this connexion it is remarkable that the verb proves to be far more tenacious and long-lived than the substantive. We think we have already done with substance, but we are very far from having done with "being."

We have perhaps disposed of the most important antinomies. If we review what has been already said, we shall not be able to avoid the vague and tentative feeling that something entirely vast exists, but that we cannot enter into positive relations with it.

Since we have dealt with the sphere of the antinomies of the superlative concept—which probably has but little interest now for most readers—we can now examine more closely the question of the reality of the Absolute (which has been already

answered heuristically in the negative) in order to provide, as far as this is possible at present, an epistemological answer.

There are five possible standpoints:

1. The Absolute $= \Sigma \infty$ (that is, only numerically, only quantitatively). That there must be a sum of being admits of no contradiction. (Compare p. 284.) That the Absolute, in the strict sense, is more than $\Sigma \infty$, need not for the moment be considered. The underlying antinomy, if we consider the whole subject, is not too obtrusive.

2. The unity of the Absolute means little. We have already made the effort to think of all obstacles among individual objects, and among our contents of consciousness, as being absent, so that being might artificially appear as a unity. In this respect the unity ascribed to the Absolute is only an analytical judgment.

3. In respect of the different syntheses which are supposed to be accomplished in the realm of the Absolute, and in respect of its qualitative content, the Absolute belongs to the realm of fiction, or—if we wish to be more discreet in our rejection of it—to the realm of the pure transcendent.

4. With regard to the assumed *background* constituted by the Absolute behind appearances and relations, the following points of view may be distinguished:

(*a*) The Absolute as a "non-sunlike" "in-itself," i.e. an "in-itself" without axiological moments, which is only a pure *privatio*. We assume its reality only as a working hypothesis; it leads to the recognition of an auxiliary or limit-conception.

(*b*) With regard to the second moment of the Absolute (denoted, in the algebraical formula already suggested, by I), one must distinguish (compare pp. 290, 292, 295):

1. The axiological moment, which is of course applicable only for humanity, implies that epistemologically our attitude to this part of the Absolute must be one of complete *repudiation*. If we assume that behind things there is something enormously valuable, this value can be indicated only in respect of man, in respect of our S. That which is *ego*-related is not absolute. We do indeed seek for the valuable in the Absolute, but only so long as we do not consider the true nature of things. The

Absolute is of course beyond all values. It would be no Absolute if it were not so. In this sphere our rejection cannot be too categorical.

2. In respect of the perhaps even deeper and entirely unknowable strata in the Absolute, epistemology can recommend only the strictest reserve. They are and remain unknowable. We must, however, reflect that this reserve is less than the rejection required in 1. That was at all events unequivocal. This cannot at once be said of the epistemological reserve.

3. Of the Absolute as Being, no unequivocal assertion can be made. This difficulty is connected with the antinomy of the concept "being."

Comprehensively we can say beyond question that there is no Absolute which would fully correspond to our hominstic imagination of such a concept. It would be an improbability equivalent to the ratio $1 : \infty$ that of all the infinitely many possibilities of the Unknowable, it should directly correspond with the one mental conception which our poor *Homo sapiens* forms on this ephemeral earth. Of the theoretically infinite abundance of psychologically explicable supreme concepts our mental operations constitute *a special case*, upon which our own species—in the course of its further intellectual development—will continue to build, and will be brought closer to the realm of reality by the gradual empirical and speculative labours of possibly millions upon millions of years, without ever attaining to it.

By the rejection of a positive or positively tending Absolute we do not by any means say that there is or can be nothing unspeakable and infinite of which we do not dream, and which we can never grasp. Beyond the limits of our knowledge there is an infinite realm of darkness. Even its darkness is only a relative notion; it is dark *for us*. It has two not entirely black edges; perhaps indeed they are even facets. These are partly known to us. They are the appearances of the external world, and the less rich content of inner experiences. But, to abide by our metaphor, reality is not two-dimensional, but multi-dimensional.

Reality extends into inexpressible depths, whose profundity

surpasses our powers of imagination. Here the most sublime fantasy becomes exhausted, if it renounces metaphors, which can but lie. Such a fantasy has only presentiments at its command; it paints with black upon blackness, without images, without words.

It is a fantasy coupled with the strictest epistemological renunciation, the strictest noetic resignation.

*(d) Metaphysical*

With this we have reached what is for us the last possible frontier. If theoretically we resort to the purely fictive *metaphysical* world-picture, it is in the sure conviction that the Absolute has its place only here; or rather, according to our attitude to this obscure realm, it has its place either here or nowhere. After what has been said, it would be superfluous to repeat that any positively conceived Absolute—that is, any Absolute endowed with positive properties and qualities—can only be a most mischievous fiction, a spurious concept, referable to the imperfection of our intellect.

Our epistemological rejection cannot, however, be seconded by a metaphysical rejection. The alleged realm of metaphysic is so remote from us, so unrelated to us, that it excludes a simple, unequivocal denial. Instead of a simple rejection we might speak here of an infinitely intricate architecture of denial. Of a "being" totally removed from our S, or of other forms of existence, and generally, of those which no longer correspond to the known relation S : O, but somehow, perhaps, surpass it altogether, we can say nothing at all in our human language. Here fantasy can exhaust itself in negative presentiments, which can never go deep enough. We must not believe in them, yet we must not flatly reject them. Among them is the already-mentioned image of the dark cube with the two lighted edges. To assert that there are no other—and perhaps abysmally profound—forms of being, because they are not accessible to us, would be childish. Since they possibly surpass our schema S : O they cannot communicate any *perception*; their data must be *toto genere* distinct from all kinds of perception, if we assume "being" to be a wider concept than

"being able to be perceived," which, of course, we have no right to do. What a percept-less and more than *ego*-free being could be is perhaps only one of the spurious problems. Perhaps it is a problem *a priori* falsely stated. We wished only to give a faint foretaste the possible nature of the Unknowable.

It might also be comparable with the imaginary and complex, even the bi-complex magnitudes of mathematics ($a + i + I$), where the small $a$ would denote our knowledge, and the two $i$'s the metaphysical Absolute with its imaginary components.

Impenetrably black dice, infinite dimensional spaces, theoretically inexpressible possibilities, shifting between $\Theta$ and $\infty$, of other forms of existence than those accessible to an S, which of course might prove to be complete fictions, since at this stage the relation between the predicate and the subject of a proposition is infinitely ambiguous. And all this under the hypothesis of the somehow all-penetrating, manifold, and multivocal *negation.*

## UNKNOWABLE, TRANSCENDENT, FICTION

The Absolute and Metaphysical is probably not equivalent to *nil*, but rather to an inexpressible system of obscure infinities. To deny it would be superfluous frivolity. To predicate anything of it would be childish. At this point one thinks involuntarily of the ancient Indians. They rightly recognized that here nothing can be accomplished with human words. To say nothing of many other passages in the Upanishads, where the utter unknowableness of the *Brahman*, the Absolute, is demonstrated, we will quote from Deussen (*Geschichte der Philosophie*, I, 2, 143) a very significant passage: "When Bahva was questioned by Vashkali, he explained to him the *Brahman* by this, that he was silent, as the scripture relates: And he said: Teach me, O venerable one, the *Brahman.* But he was still silent. When the other questioned him for the second or third time, he spake thus: 'I am, indeed teaching it to thee, but thou dost not understand it; this *Atman* is *silent.*' "

*(e) Summary of considerations in the longitudinal section*

Thus the final conclusion of wisdom is that we, having attained to this height, must likewise be silent, not because we wish to represent the Indians as unsurpassable thinkers, but because we must recognize that in this sphere they have thought most consistently.

But what overwhelms us is the gigantic magnitude of the Absolute. Here it would perhaps be more discreet to say, of the Unknowable. But we say this of a negative, indeterminable concept. Perhaps even a spurious concept. Yet even in this dilemma there is something great. The greatest thing in the Absolute is its infinite *aloofness*, its "beyondness." Over the S of man it possesses a superlativity, even though imaginary, of more than disparity of character. It contains a maximum of fiction.

In order to represent, at least metaphorically, the enormous magnitude of its remoteness, its aloofness, let us first think of the hugely vast universe of Einstein. Then of the infinitely great universe, extended in space and time, of the sensualistic world-picture. All is only on the surface. To this is added depth. Instead of *one* infinity we have an infinity of infinities. Here enters the sphere of the possible, and not only of that which can possibly be thought by us, but also that which could possibly be thought by all conceivable and even (for us) inconceivable subjects. Here enters the *metaphysical* comprehension of the world-picture. Also the consciousness that all this has no longer any relation to us, and is utterly beyond everything to which we stand in any relation, including the two most modest conceptions of philosophy, the Greek *apoion* and the Indian *neti-neti*.

Its unity is an intellectual abstraction. Its perceptibility is nil. Its negativity, its fictionality are at the maximum. The concept of the Ultimate is completely submerged in the imaginary and in the pure transcendent.

And yet I am afraid that in spite of many negations, in spite of precaution, discretion, resignation, and many other reservations, I have already said *too much*. The reader must never forget that anything that we venture to say here, by

way of conclusion, consists only of metaphors and shadows, metaphors of an unknowable and shadows of something utterly "beyond," whose existence is attested only by the feeble motive that its complete denial would be an even greater absurdity than its timid and uncertain affirmation. Further, we must not forget that all the S-philosophers, and many other thinkers in different camps, regard the superlative concept as *only* a mental image, and we are moved to even greater discretion by the consciousness that epistemologically this standpoint cannot be refuted. Our agnostic standpoint, which, with regard to the supreme concept, is not one of sheer rejection, results from our critical realism in the contemplation of the external world. If we concede the probability of the external world in ever so modest a form, we discard the solipsistic heresy, and thus we cannot adopt an attitude of complete rejection even in respect of the unknowable which lies just behind appearances. We must not even declare the mysterious reason why anything appears at all to be merely null and void. We regard our agnostic standpoint as the more universal, the more probable, and the attitude of sheer rejection as a special case. And having come so far, we must consider the more universal and more probable to be nearer to reality.

But beyond vague images and faint presentiments, beyond epistemological resignation, we cannot go.

### 3. THE ABSOLUTE IN TRANSVERSE SECTION

#### (*a*) *General*

There still remains for us the second way, which we have likened to a sort of transverse section. The word "transverse" constitutes a very weak metaphor, derived from the comparison with a passage which grows darker and darker, and in which there are many doors.

There are two points of departure for this mode of consideration, which correspond to the two forms of appearances of reality which are accessible to us: at one time we take our point of departure from consciousness, or the subject, or the psyche, at another from the external world, from the O, from

Nature. Here we can psychologically oppose the consciousness, the primary experience, and the sensations to the world of appearance, and also its epistemological correlative, the S of the sum of contents of consciousness, to the perceived O.

We have already spoken, in the course of our considerations, of these two ways, and have conceded that both possibilities of knowledge are available only under the fiction, that whichever we accept, we thrust aside the second phenomenal form of reality, which we simply refuse to take into account, as illusory, fictive, or non-existent; as a kind of chimaera.

(*b*) *The S-observation*

Hence, on the one hand, arises the solipsistic procedure of the S-philosophy, which, strictly regarding and respecting the principles of epistemology, considers the whole external world, the whole non-*ego*, the whole objective world of appearance, as illusory. What is not content of consciousness does not exist; the representations and sensations have, it is assumed, no causes transcending consciousness, external to our intellect, external to the perceiving subject.

(*c*) *The O-observation*

The second method is the materialistic, which, proceeding from naïve realism, assumes the reality of the external world as granted, and beholds in the sense of existence, the *ego*-feeling, and its psychological and epistemological offshoots, a subjective delusion.

If, to begin with, we consider the first way, we arrive at the result of a punctiform, microscopical Absolute. We need no longer recapitulate the whole intellectual process, since it has already been exhaustively expounded in Chapter IX. We arrive at the primary experiences, exclude all that transcends consciousness from the sphere of reality, and confine ourselves strictly, by the exclusion of other forms of appearance of time, merely to the present. The solipsism of the present thus attained, which at the same time eliminates —in obedience to the attitude implied by this procedure— everything that is alien to the psyche, beholds the Absolute

in a diminutive fraction of the individual *ego*. Its size, mathematically considered, as is necessary, if the metaphor chosen is to be retained, is equal to nil.

The second method is of course much more profuse. It offers us the three world-pictures mentioned at the beginning of this book—the sensualistic, epistemological, and metaphysical. To avoid repeating what has been already said, we will restrict ourselves, in the case of each world-picture, to a brief and approximate indication of how—according to the mode of consideration—the supreme and final concept of each world-picture may appear to us.

The sensualistic world-picture is satisfied with the spatial and temporal infinity. Here the greatest support for the assumption of the infinite in three-dimensional space and one-dimensional eternity, in time (or, to employ the more modern post-Einstein expression, in the four-dimensional continuum), is found not in experience, which mocks at any sort of infinity, but in the intellectual impossibility of imagining a limit to space or time. We must consider the thinkable as more probable than the unthinkable. Infinity in space and time is certainly unimaginable, but thinkable. Our intellect must thus decide for the acceptance of infinity as nearer to reality, since of the two evils, unimaginability and unthinkableness, the former is surely the less. Our sensualistic world-picture shows us an infinite vacuum, interrupted here and there by accumulations of matter, which, of course, as time goes on, are thought of by the physicists as ever more and more sublimated. A minute proportion of this matter is animate, possesses consciousness and *ego*-sentiment. Both matter and life are spatially and temporally strictly limited. They are subject, moreover, to countless limitations of a causal nature. In this world-picture space, time, and causality appear as all-embracing, and omnipresent, but not as absolute, since this concept does not belong to this world-picture at all, and must be thought of as entirely beyond it. Also the ether of space, if science will allow us to believe in it, has the character of something omnipresent and universal. It may furnish a metaphor of the Absolute within the framework of the sensualistic world-

picture, without attaining to the intellectual profundity of the superlative concept of the metaphysical world-picture. Thus the sum of the universe accessible to our senses is to be expressed by the familiar formula $\Sigma \infty$, whereby—as is comprehensible in the world-picture of naïve realism—everything psychic is thought of as completely included in the mass of bodies.

The sensualistic world-picture can do no more than form a few universal concepts: for example, the four infinities, to which, of course, the further development of the sciences may add yet others. Since the concept of the Absolute, as we have represented it above, has nothing to do with this world-picture, we may—if we are not alarmed by the phrase—define the infinities of the sensualistic world-picture as only *relatively* absolute. That the relatively absolute is not absolute is quite clear. This paradoxical combination of words is not my invention; the words are certainly not well chosen, but as they stand they give us a fairly useful metaphor of our psychic situation as regards the highest concepts of the sensualistic world-picture. We have once more, as often before, come to a halt half-way to our goal.

Epistemology modifies the world-picture just discussed to this extent, that on the one hand it extends, and on the other hand it limits the validity of the picture by its criticism. Above all, we dare not exclude the admission that our fortuitous senses and our intellect—which has accidentally arisen through the struggle for existence—communicate to us the perception of only a very small part of the perceptible, the existing, the conceivable. The greater part remains for us, and, as we have so presumptuously assumed, for other subjects also, unknowable. We behold only changes and relations. We remain always on the surface. On the other hand, we have perceived that everything which is communicated to us through the senses, and even through the intellect, is only appearance, and must always remain so. I would lay especial stress on the second half of this proposition. Even our inner vision, our faculty of speculation, which works with ideas and concepts, which are derived from our sensory perceptions, offers us

merely a world of appearance. It is of course comprehensible that the internal as well as the external world of appearance does not correspond with reality, and that its accuracy must be doubted.

Under these assumptions our world-picture is to be regarded as a something which is derived not only from elements of the external world, but also from ingredients of our inner selves. In such an admixture the outer O-components do not admit of being distinguished from the inner S-components. The task of epistemological criticism, clearly to distinguish the two species of components from each other, to extricate therefrom a pure O and a pure S, and finally to demonstrate how the world-picture arising from the admixture of the two elements was really constructed, is of course insoluble. The human intellect cannot, so to speak, sit in judgment upon itself. It must satisfy us merely to understand that there are two elements. Their limits, and the nature of the mixture, cannot be established. The longer we consider this problem, the more components we decide to ascribe to the perceiving subject. Kant, for example, referred the whole time-and-space concept to the sphere of the subject. A consistent S-philosophy, which proceeds according to the old principle *esse* = *percipi*, rejects the O entirely, and considers the whole world-picture as a phenomenon occurring within our consciousness.

Even for the epistemological world-picture the formula $\Sigma \infty$ is convenient a model example of the applicability of the abstract mathematical formula. Epistemologically, of course, it is difficult to speak of an infinite; on the other hand, the supreme concept, which should include everything in itself, can hardly be expressed by another magnitude. The formula $\Sigma \infty$, employed for the sensualistic world-picture, includes an infinity whose magnitude is simply *believed*. In the epistemological world-picture this infinity is indeed *doubted*, perhaps even partially denied, but the algebraical expression cannot be written otherwise. For example, if instead of the formula $\Sigma \infty$ we were to choose another, which would not contain the symbol of infinity, it would read $\Sigma (\infty - 1)$ or $\Sigma (\infty - \delta)$, since subtraction is the sole mathematical process

by means of which the magnitude of the infinite is altered —i.e. is diminished. Nothing can be added to the infinite, nor can it be either multiplied or divided by any magnitude, if we wish to make something other of it than what it was originally, if we wish to obtain a finite result. The all-round applicability of the mathematical formula is of course a welcome aid to thought, but in these latitudes it leads us astray, since the content of the formula is indefinite, in so far as it admits of many explanations. The epistemological moment of doubt cannot be algebraically expressed.

The whole epistemological realm signifies a transition from the sphere of naïve realism to the "being-in-itself" of metaphysics. It is, as has been already said, a realm of doubt. What we know is certainly no "in-itself;" even less is it the Absolute. The Absolute is still inaccessible to every S. The epistemological domain is a kind of border-region between naïve realism—whose images have been unmasked as mere appearances—and the Unknowable. It is negative; that is, it is constantly repeating that what we perceive is not knowledge. It is relative; that is, it says that what we perceive is *our* knowledge, *ego*-related, limited to our subject, to be doubted as regards its nearness to reality, remote from a pure inaccessible O. At this stage one is working with the hypothesis of the reality of the external world, the probability of which is of course so great that it must be practically accepted, since the contrary leads to absurdities. Hence we see that this domain accepts, on the one hand, the relativity of a theoretically lower world-picture—that is, it has something in common with it —while on the other hand it is connected with the higher metaphysical world-picture through the negation which appears in both conceptions.

The metaphysical world-picture would, if it were not utterly fictive, show a "being-in-itself" infinitely greater than the two preceding world-pictures, the first of which remains only on the surface, while the second arrives at merely doubtful results without adding a new positive constituent. That we speak at all of this speculative world-picture is explained by the necessity of formulating an "in-itself" which is unknow-

able, which is entirely beyond our capacity of knowing, but which must somehow exist, as an inaccessible reason why anything appears at all. The metaphysical world-picture is the assumed realm of the pure object. Its intellectual superstructure is the Absolute, the final concept of our intellect, which must be more than a bare "being-in-itself," which is, strictly speaking, a negative concept, a residue of the earlier world-pictures, which results from thinking of the S as absent. Of the attributes and contradictions of the Absolute we have already spoken.

*(d) Summary of considerations in the transverse section*

Thus we have arrived, on this second path, through the transverse section of being, at the very point at which we formerly stood. We cannot continue our intellectual flight. We must now add a few critical remarks in respect of the superlative concept, to which we have approached as closely as is possible to a human intellect under the given circumstances.

The subjective form of appearance of reality has brought us—if we acknowledge the microscopical Absolute of the S-philosophy as a human error, as an unprofitable *cul-de-sac* of human thought, to be ignored in our further considerations —to a concept of the Absolute which has some resemblance to a black infinity of infinities, on the constant assumption that with our possibilities of perception and thought we must always remain on its surface.

We have repeatedly spoken of the Absolute as black. But it must not retain even this quality, for this is a relic of its relation to us. For us it is unknowable, hence black. But as Absolute it must be unrelated, hence even this so frequently emphasized quality of blackness falls away (compare p. 304). This is only the aspect which the Absolute—to continue the metaphor—shows, so to speak, to the observer. And with it must go all the appended negative qualities, which relate to the impossibility of knowledge: unknowable, transcendent, unperceivable; negations throughout, which have arisen out of the S-relation to the Ultimate. It would be correct to repudiate even this, and to think of the Absolute as utterly

withdrawn, entirely "beyond." What can be related to anything is not the Absolute. What can be the object of perception has nothing in common with the Ultimate. Even the countless variations on the theme of infinity must once more be critically examined. They are the residue of human inability to think of space and time—and therefore the universe—as limited. Since even the simple universe of the first world-picture, which appears on the surface, is infinite, the metaphysical universe must reveal very gulfs of infinity, compared with which our four more or less "empirical" universes are mere toys. We cannot so readily think of infinity as absent from the concept of the Absolute, as we can think of the blackness and the unknowableness as absent. But even to the infinite there adhere traces of its human origin. Where possible they must be thought of as absent, and the no longer human, the no longer experiential, must be emphasized. What is left of the whole after this analysis?

### 4. RESULTS

(*a*) 1. The Absolute is to be thought of and regarded, if at all, as an *apoion*, as something as to whose qualities nothing can anyhow be said.

2. An essential part of the Absolute is the "in-itself," an unqualifiable something, which is to be assumed behind appearances, without being itself an appearance, or a reason, or a condition of the occurrence of appearances. That it is no substance follows from what has been said above, when we disposed, in lower regions, of the substance-concept. If, for example, we proceeded still more sceptically, refusing even to admit in any manner this inaccessible remote background, we should simply have to assume that nothing "in-itself" corresponds to appearances, and that everything that we perceive can be only the subjective illusion of the sense of existence. Since we cannot do this, we must return to the above assumption.

3. The attribute of totality, of universality, must always be thought of in connexion with the concept of the Absolute; it is so essential to the Absolute that its co-ordination in the

realm of the Absolute is to be regarded as an analytical judgment. The Absolute embraces simply everything; this is clearly expressed by the employment of the now familiar algebraical formula $\Sigma \infty$. But here too there are difficulties (compare p. 284). Totality can easily be grasped mathematically, but owing to the entire "beyondness" of the Absolute it cannot be grasped mentally; we have to console ourselves with the thought that the contradiction of the "beyondness" of the Universe on the one hand, and on the other the necessity of including our inner selves in its domain, is necessarily part of its essence.

4. The Absolute as a subjective, speculative extension of empirical reality is of a fictive nature. It can hardly be determined how far it is valid hypothesis and how far fiction. In any case, the fictive aspect is so preponderant that, apart from the quantitative aspect and the postulate of totality, the whole Absolute—especially when regarded from the metaphysical standpoint—must be assigned to the sphere of the "as if." Above all, the fictive character of the Absolute is underlined and emphasized by the justified assumption that it simply will not do to hypostasize a purely human mental product and attempt to elevate it to the Ultimate.

5. An Absolute that satisfies all the logical riddles which it proposes, and within whose framework all problems are solved, is just as impossible as an Absolute other than that of the human intellect or a Godhead corresponding to the requirements of the Middle Ages. In our present comprehension of the Absolute, of course, all antinomies are sublimated. But we must never forget that we know *our* concept of the Absolute only, and that this is and remains merely a product of human thought.

6. Of the Absolute, then, almost everything—apart from its totality and the faint sense that there is, after all, *something* which appears—remains in the spheres of the fictions and spurious problems. But this does not detract from the notion that there may be forms of being which are quite independent of us, and entirely inaccessible to us, which are yet ingredients of the Absolute, and perhaps form the greater part of it, which nevertheless, for us, remain for ever remote and "beyond."

7. The "beyondness," the aloofness, the lack of every relation to us, together with the compulsion to think of ourselves as embraced by it and as parts of it, approach most nearly to our metaphor of the Absolute. All that can ever be said of it consists only of metaphor.

8. It need not be repeated that from the Absolute all axiological moments, all human values, must be absent. Valuation is possible only in the lower human sphere. Valuation can be effected only in respect of someone; where all relations must lapse it is out of place. Our representation of the Absolute is indeed the most majestic, most gigantic, most profound, most remote imagination that the human mind can possibly conceive; our presentiments go still farther; but with this gigantic magnitude and abysmal remoteness is coupled the sense of the utter aloofness from all human valuation of this symphony of infinities. That which for ever remains unknowable to us, entirely separated from us, which can enter into no sort of relation with us, cannot under any circumstances be valued.

9. Of the Absolute may be said the reverse of what St. Anselm said of God: the *ens perfectissimum*, the most perfect, must exist, because existence is a condition, a hypothesis of perfection. If it did not exist it would not be perfect. We say, we think of the Absolute as so—I will not say perfect—but as somehow so majestic and complicated that it *cannot exist*. The major part of the superlative concept is a spurious concept. That even the comparatively little which is left of it is yet gigantic beyond all measures; that above all *something* of it must be left, is the modest result of our investigation.(140)

(*b*) At the close of our considerations we are conscious of the conviction that it was presumption to wish to think of the ultimate reality as a great man, as a personality, to let our instinctive original and primitive anthropomorphism have its way. But it is presumption also to think of the ultimate reality in human concepts, or at least, to attempt to assert that the ultimate reality or the prime cause of being, or whatever arbitrary name we attach to the Ultimate, can resemble a

product of human thought. It is presumption also to elevate this product of human thought to the ultimate reality.

That the older presumption was greater than the newer, that the crude personification of the Ultimate implied a greater error of thought than the sublimated anthropomorphism of hypostatizing our mental product to the Supreme and Ultimate, is only a difference in degree.

The Absolute is assuredly not what we men believe of it, and even this discreet denial must only be metaphorically understood.

We have come to the end. No way leads farther, no wings are unfurled that will carry us farther. We stare into the deep, gloomy night. We cannot see the mountain summit; all is shrouded in darkness. The mist will never disperse; we shall never behold the prime cause of being, can never fathom it, never approach it; we remain for ever remote from it, without any bond of union, without any hope. . . .(141)

### (E) SUMMARY OF RESULTS

The concept of the Absolute, of a metaphysically imagined infinity, is the highest thought of which the human mind is capable. From its unrelatedness to any perceptive or thinking S arises its complete "beyondness." It need not be specially emphasized that this "beyondness," the necessary consequence of the idea of the Absolute, must even more necessarily exclude every attempt at a valuation of the Absolute. I know I have treated these trains of thought in previous passages of this work (compare p. 317), and I should be sorry to weary the reader by recapitulation. But it is of the greatest importance for us, and it cannot be too strongly emphasized. There are no absolute values. There is no metaphysics of values.

A metaphysics of being may perhaps be inaccessible to man, to every conceivable S: it may lead us into the realm of fictions, into that of spurious problems, but its conception contains no contradiction. A metaphysics of values is utterly *paradoxical.* It would be the summit of paradox—in a conception in which

the fictive aspect is compelled to ascend to its maximum—merely to desire to speak of values. Apart from its remaining superlatives, the Absolute belongs supremely to the "beyond," absolutely lacking relations, which can never enter into any S, however formed.

Hence we declare emphatically that the Absolute must remain beyond all valuation. Even its feeble image in the sensualistic world-picture, the universe, must—as we see on pp. 83–85—remain beyond valuation. Even with regard to the being of the Absolute there emerged the cautious Indian expression *neti-neti* and the Greek *apoion*. We have arrived finally at the profoundest silence. Here no human negation is negative enough to give adequate expression to the paradox of attempts to treat of the relations of Relationlessness itself.

Involuntarily we think, in connexion with this idea, of the gods of Epicurus. He did not in any way deny the world of gods. He only disputed the notion that they troubled themselves about human affairs, that they could in any way be influenced by human prayers.(142)

After what has been said above, either the whole Absolute or nearly the whole Absolute must be thought of as unknowable. This epistemological negation is uttered for the purpose of stimulating those who occupy themselves with such questions to relegate the solution of problems which must otherwise appear to them insoluble to this enormous blackness. More than once in the course of our examination we have already had occasion intellectually to deny the meaning or purpose of the universe. Here again such attempts emerge. Many thinkers are still endeavouring to import positive ideas into the inexpressibly profound black stratum of the Unknowable. They are still endeavouring, and such attempts unfortunately will continue for a long time yet, to convey the meaning of the universe by asserting that the universe as appearance is of course void of meaning, but that appearance is only the surface of being. The unspeakable abyss of the Unknowable beneath the surface of appearances must certainly harbour "a meaning."

It has been already made clear that "meaning" signifies that

appearances, and facts which are to be spoken of as fraught with meaning, are parallel with our inner nature, with our intellectual faculty, or, in other words, that they can be rationally grasped. But now truth is unhappily much more modest. Not even the surface, not even the appearances, ever admit of a rationalistic interpretation. Of old we endeavoured —and hitherto the attempt has been largely futile—to bring the whole world of appearance under a rationalistic denominator.

The Unknowable lies beyond all human, and for the most part beyond all conceivable reason. To seek to anticipate, in a rationalistic sense, that which the human intellect cannot even grasp, would be the greatest presumption conceivable. It would correspond to the following metaphor: we do not of course know what happens in the dark, but we assume that everything that exists in the dark is somehow arranged in alphabetical order. The alphabetical order is only a symbol, only a feeble reflection of the rational. And a meaning can be established only if we have first proved that that which is to be described as fraught with meaning is rational.

We cannot reject too peremptorily the attempt to look for the meaning of the universe in the Unknowable. The reason for this rejection is a logical one. The attempt would be not only presumptuous, but a crude offence against common sense. If we concern ourselves at all with the question of the meaning of the universe, we must emphasize the fact that it is merely a spurious problem. An infinity can have no meaning. To attempt to say anything about the meaning of something metaphysical, something utterly "beyond," would be a mockery of these concepts. We can say little to console those inquirers who in these great problems find it so difficult to come to terms with a negation. We advise resignation. There are questions so badly put that they cannot be answered. Not because we perhaps know too little and shall later know more. No, even later we shall not answer them. The questions were badly put at the outset, and this bad framing of questions arises from that intellectual error which we have come to realize as the unjustified transference of the finite to the sphere of the infinite. Individual happenings, individual things, individual

subjects have meaning. One may speak of a meaning in our individual life, perhaps in the life of a planet, but one cannot speak of meaning in respect of the universe. Just as we have resigned ourselves in respect of our individual life, so we must make terms with the thought that those badly put questions, of which the answers seems to mean so much to us, never can be answered.

Perhaps *less* than we think lies hidden in the vast black stratum of the Unknowable. What is black need not be full; it may even be partly empty. The illimitable time after death is also black and empty; black and empty too is the illimitable time before birth. "Black" and "empty" seem to be almost the rule in the universe.

Meaning and purpose are human words, are less than anthropomorphisms. In little things a purpose is necessary to me. What has neither end nor beginning cannot be itself a purpose. In other words, we must admit that there is no meaning and no purpose in it. For by the meaning and purpose of a thing we always mean something other than the thing itself. Where both must coincide there can be no talk of a meaning or of a purpose.

Let us glance once more for a moment at our sensualistic world-picture. Let us take the great star Betelgeuse. Five hundred million kilometres in diameter, fifty million times greater than our sun, sixty billion times greater than the earth. It glows with an enormous heat; on the surface it is in fact relatively cold, but is therefore all the more incandescent in its interior.

There the temperature amounts to perhaps some tens of millions of degrees. A 53-point numeral would be necessary to express the number of atoms in this colossus, even if I accept the statement that its density would be $10^6$ times lighter than the density of water. And the atoms—ionized, of course, stripped of their electrons as far as the K-orbit—whirl hither and thither with a velocity of 150 or more kilometres a second. Everywhere rays, incandescence, electrons, protons, a measureless arena of such miniature components—an eternal to and fro—and only a change of place; nothing is achieved. And

everything has been more or less the same for some billions of years. And it will continue so for many more billions of years. There are many millions of such stars in our Milky Way; and of such Milky Ways there is an immeasurable host in our metagalactic system; and these systems again, in all probability form yet higher systems.(143)

Where is there any "meaning" here? There is a little active energy in the stars, in their movement, in their mass, and potentially in the nebulae from which new stars are slowly forming, but all around them is immeasurably great, dead, empty space. Are we to assume that these incomprehensibly great systems, and the innumerable giant stars, which in spite of their minuteness in comparison with space, are mighty beyond all human imagination, exist for hundreds of billions of years in such a state of redundant rotatory motion merely for this purpose: that here and there, sporadically, on some forlorn little heavenly corpuscle, an ageing matter should evolve from ions into atoms, and engender life and consciousness, as a Lilliputian episode, amidst the aeons of dead and half-dead eternities? When not even the rest of the fixed stars stand in any causal relation to our earth! In relation to life, which alone makes "meaning" for us, they are all so superfluous, so incongruent! This alone is the fact. To-day we see a little farther than we used to see, and we hope that in the future we shall see farther yet. We shall hardly be the more joyful for our profounder knowledge. Whosoever is convinced of the progress of the science of to-day will not reject it if it tells us that the universe is meaningless. We ourselves are this "meaning": this is the old mythology, which is still haunting our minds. And what is the significance of the empty spaces, the infinite vacua, among which even the greatest stars are minute oases? What meaning do they possess? What meaning would the universe possess, if these few stars were absent? Even in our own metagalactic system there would remain, if it were entirely *without* heavenly bodies, $10^{48} - 1$ parts, and only one single part would be lost. And the greater the circumference the greater the vacuum.

Why does this empty space exist? Even if it were the case

—which is far from being proven—that it was related to stellar energy as energy is related to life, even if its infinite maw possessed the possibility of generating such energy as would ever and again paralyse, after *n*-tillions of years, the "thermal death" of the metagalactic system—even then the universe would be just what we think it: a monstrous but almost inanimate *perpetuum mobile*, as inanimate as the utterly dead earth would be if a single living atom existed on it. And even this comparison limps hugely behind the enormous magnitude of the universe accessible to our senses.

Should we still speak of a meaning of the universe, if *only* this vacuum and *only* this inanimateness prevailed? In these circumstances who would there be to ponder the matter? If there were nothing, there would certainly be no observing subjects.

The atoms have one important quality. Under certain conditions (compare Jeans, I, p. 152) they give off no further energy; under certain conditions—and this appears to be valid for the majority of cases—they cannot disintegrate farther; their positive protons are not equalized by negative electrons. And this is the condition upon which the universe has continued to exist: that in respect of its radiation of heat there has long been no fundamental change, and that it has not yet radiated itself away into the infinity of universal space. Without this quality the atoms would have disintegrated long ago, and there would be only a measureless vacuum with a little heat, which would soon be lost in the breadths of space. It may be that in this manner other systems of universes unknown to us, in other parts of the infinite, have ceased to exist. Perhaps they have already, inexpressible ages ago, suffered the "thermal death." This is the position of science to-day. Perhaps we shall some day have a better understanding of what the impossibility of giving out energy, the impossibility of electrical equalization and disintegration, the impossibility of complete loss by radiation means, hence why the universe *persists*, why it is not entirely empty, why it is not only lifelessness and vacuum.(144)

I repeat that from a certain standpoint it would perhaps be

"better"—though here, of course, opinions may differ—if it had so happened that nothing had ever existed. If there had never been anything at all.

But this was obviously not possible. What this "not possible" really means in our human language is of course a very profound problem. Whether we shall ever grasp it any better, whether we shall ever understand anything in this connexion, is a question. Perhaps we frame even this question incorrectly. One can only repeat: *some* energy in the vacuum is more probable than pure vacuum, than pure inanimateness, than pure nothing.

We feel how frightful—how terrible beyond all human consideration and comprehension—are these words "it would have been *better*," and so forth. Our universe *could* do no otherwise than exist. It could not so happen—I know these are only human words—that it did *not* come into existence. According to Jeans it will at some time cease to exist. I cannot quite believe this. The causes which have brought it about that such a universe as we partially know through our senses should ever have come into existence will probably be capable of preventing its non-existence. It may be that even here we express ourselves incorrectly. The main logical error lies in the words "come into existence," which to a certain extent assume that at one time the universe was not. But this we cannot admit. As to a state of affairs before the universe existed we can say nothing. On the contrary, all that we know of the universe is such that we must assume that it has somehow always existed. But this mere assumption does not decide the most difficult problem of temporal eternity, which forces itself upon our intellect, yet can never be thought to a conclusion. We wish only to warn the reader against the idea that it was once fundamentally different from what it is now. In our little section of time we cannot do otherwise than believe in an eternity of the universe, since we cannot imagine its beginning and end without first grappling with the question as to what eternity may be in itself, and whether there can be an eternity at all. To-day, of course, astronomy begins, like the Bible, in assuming that from somewhere, out of the infinity of universal

space, there arrived, like a *deus ex machina*, a highly available energy, which transformed itself in the course of years into a lower heat-energy.(145) In this I see only an episode in the evolution of the universe, but not the whole process. In this way individual cosmic forms come into existence. I think we still know much too little of this matter. I believe that the universe, existing from eternity, maintains itself, and that it did not, like a *deus ex machina*, suddenly arrive from somewhere or other. It would be strange if the universe were ever to be in danger of being unable to save itself from thermal death—if it could not recover itself. In infinity it possesses, if we may say so, a pledge of its existence. But as for a meaning, a purpose—we must not look for such anthropomorphisms behind the universe. Any such "behind" is merely a human notion.

And we must, of course, reconcile ourselves to the thought that there is in the universe so little that is animate and conscious, but, on the other hand, almost an infinity of inanimateness, and as much non-living energy. The objection that life —not our life, of course, but perhaps another sort of life— exists on Betelgeuse, a life that would be possible under fifty million degrees of heat, is childish. This would not be life. Under such conditions of matter any sort of life, as we must conceive of life, is simply impossible. Merely to attempt to speak of such a thing would be a foolish retrogression.

Thus there is little life; it is rare. Potentially it is rooted in a broad foundation of energy. And this is rooted in a still broader foundation of empty space. That nevertheless all this is somehow mutually connected—though we do not know the nature of the connexion—cannot be an unjustifiable thought. It verges on the unity which has already been discussed, which we have considered and criticized from the standpoint of the higher world-pictures. We concede that a certain consolation may be perceived in this unity, though indeed it is only a faint glimmer of consolation. It is just that one has the feeling that in a sense one somehow belongs to the universe, to its infinity and eternity. That "nothing can happen to one," in the words

of the peasant of whom Mauthner speaks in his *Mystizismus* (*Wörterbuch*, II, p. 290).

According to this there is little life, but there is rather more potentiality tending to life. Perhaps there is even more potentiality tending to energy, if we may so express ourselves. For us and our human longing this is of course only a theoretical consolation. Astronomy is no cheerful science.

And still less cheerful is critical philosophy.

We are at the end of our survey from the highest available watch-tower. We arrive once more at the monstrous *decrescendo* which European humanity has experienced—and will experience, since the great majority of people do not concern themselves with such problems as God, the Absolute, the Unknowable. A gigantic man, a white immeasurableness—both have come to grief as a result of their immense inner contradictions. Both monstrous creations have revealed themselves as spurious concepts. There is left only a black Absolute, the abysmal gloom of the Unknowable.

Neither the image naïvely constructed after the model of the individual *ego*, nor the sublimated character of the great neutrals can be retained. The Ultimate is unknowable not merely for us alone. We cannot even say whether in the current sense of the words there is really a question of an Unknowable. We have seen that we have become more and more entangled in a thicket of spurious problems, and that the existence of a rectilinear Unknowable would be both the easiest and rarest case among all the mental difficulties which we have encountered on our intellectual path.

We must sadly and resignedly admit that the vastness around us, and indeed the Ultimate, remains an eternal riddle for us, and that as far as we know it on the small scale it is otherwise than we should like it to be. Considered more profoundly, the Ultimate is beyond all knowledge. We should be repeating what has been already said if we were to plunge once more into the abysmal gulfs of negation with which we have already had so much to do.

The fact that we have concerned ourselves at all with these gigantic questions is in itself quite insignificant. Centillions

of worlds and their inhabitants have meditated before us, without approaching nearer to the Unknowable or the non-existent. They are still meditating and will continue to meditate just as hopelessly.

Such meditation is always fruitless on the large scale, even if it has its small successes on the surface and in individual instances. Of the atoms which compose us, other thinking beings were composed before our time. The energy which thinks in us thought before our time and will think in beings of the future.

Is there even an identity in this monstrous temporal sequence of thinking beings? From the sensualistic standpoint, from that of our *ego*-sentiment and of our memory, we must deny it. Is there perhaps yet another profounder identity? What are we to understand by identity in this sense? What is identity in the narrowest sense?

We cannot follow the thought to the end that consciousness, the *ego*, and epistemologically the S (146) are comprehended in constant change, that they are constantly renewed, that they do *not* remain *the same*. Even here the saying of Heraclitus holds good, that one cannot plunge twice into the same river, that the stream flowing over us is always another stream. Thus the individual *ego*-sentiments of the individual observing subjects are always changing in limitless eternity.

On the other hand, the universe which environs us with its energy, its matter, and its vacuum, is a much more immovable pole in the eternal change. The O is not always the same, yet it is far, far more constant than the observing S. Thus, if we regard the question from a higher standpoint than that of optical illusion, we are left, in considering the transcendence of the Absolute, and the lack of values in the half-empty and half-dead universe of our senses, with a sense of the uniqueness and the great value of the individual life; which of course at once leads us elsewhere, in a downward direction. It is a strange reflection: the Absolute, great beyond human imagination, existing in itself, infinite, in transcendent aloofness, appears to us, on account of its unknowableness and its impossibility of entering into relations with us, as the thing remotest from

all valuation; and the moment of our petty life, which is lost as a mere nothing, in the aeons of eternity and the immeasurableness of the universal space, acquires for us, relatively, on account of its uniqueness, the greatest value.

The infinite is the realm of *being*, the positively microscopically small, the realm of *value*. We have devoted much time and trouble to the knowledge of the former; now let us finally turn to the latter!

But perhaps the moment has not yet come. Let us glance upwards once more. This glimpse from the epistemological mountain-top into the unknowable is a glance into the black heavens. The farther we gaze, the blacker and more abysmal becomes the firmament. The little stars shrivel up if we look at them for long. I know of only one metaphor which admits of comparison with the Absolute. It is just as immeasurable, just as black, just as negative. It is *death*.

It is the only really great experience that is our *own*. The limitless, negative neutrals pass beyond the horizon in our own immeasurable negating *definitivum*.

## NOTES

113. Compare Spengler, *The Decline of the West* (London, Allen and Unwin Ltd.), Part I, pp. 237–282 and 487, etc.

114. There is a searching discussion of these questions in Deussen, *Geschichte der Philosophie*, I, 1, 2, p. 115, etc. The section *Das Brahman an sich* gives the most important results of this investigation. On the one hand Brahman is depicted as at once being and not-being (*sat* and *asat*), and on the other hand as reality and non-reality (*satyam* and *asatyam*). It is the "other-worldly," the inexpressible, the baseless, the unconscious, the non-real (in the sense of empirical reality). It is amusing to see how the old Indian philosophy sought to solve the problem of the completely indeterminate and unknowable character of Brahman, by always equating two opposing concepts. If Brahman is being, this is meant in the sense of our "being-in-itself"; if Brahman is *asat*, it is in the sense that it has no empirical reality. In other words, the empirical external world is not Brahman. Here compare the passages *Chandogya-Upan.*, 6, 21, and the *Brihadaranyaka-Upan.*, 2, 1, 20. It is thus that Brahman is treated in the older Upanishads. In the later Upanishads the

concept slowly gains ground that Brahman is exalted above all antitheses, and thus above the antithesis between being or not-being. It is neither "being" nor "not-being," or "it is higher than what is and what is not." (Quoted by Deussen, I, 2, p. 120.) It is curious to note how the concept resembles the Neo-Platonic *apoion*.

115. If, however, on the one hand, the unknowable character of Brahman is proclaimed, on the other hand three positive concepts are equated (*sat, cit, ananda*, i.e. being, or consciousness, thought, bliss). These are entirely S-forms of concepts. The ancient Indians knew very well that one could say nothing positive about the Brahman, yet images were suggested which all lie on the inner side of human life. It would take us too long to explain the whole doctrine and cite the extremely verbose passages which bear upon it. We will refer the reader to *Brih.-Upan.*, 3, 8, 11; *Brih.-Upan.*, 2, 4, 11; *Brih.-Upan.*, 4, 3–4. A very interesting passage with reference to Brahman as bliss is that which is thrice emphasized in *Brih.-Upan.*, 3, 4, 2; 3, 5, 1; 3, 7, 23: "What is different from it (Brahman), that is sorrowful." This is the expression of the view that lasting delight or painlessness is possible only on the return of the individual Atman to the vast lap of the Absolute Brahman. These views are connected with the Indian doctrine of Nirvana. Epistemologically, however, they can hardly be maintained, since of something unknowable not even the smallest positive attribute can ever be predicated. That bliss, for example, is positive is self-evident. We will not do the ancient Indians the injustice to tax them with inconsistency on this account. In any case there are two strata to be observed in the Upanishads, one strictly epistemological, which denies all positive content to Brahman, and one which is—in modern phraseology—an exoteric interpretation of the strictly negative and epistemological basic concept. This second stratum permitted of certain metaphors and similes, but the metaphorical nature of these passages cannot escape the initiated.

116. With regard to the negative nature and the unknowableness of the Brahman compare Deussen, I, 2, p. 133. In this passage evidence is adduced that the three above-mentioned ingredients of the Brahman concept, *sat, cit, ananda*, are all negative in character. Being is certainly a non-empirical being; further, it is implied that Brahman as perceiving S remains for ever unknowable to itself, that it must be denied not only an empirical but even any objective being. Bliss also is not such as can become sensation, but such as prevails in dreamless sleep, when the difference between S and O, and therewith consciousness, has ceased. Consequently all three definitions of the Brahman are negative, and from this emerges the chief dogma of the Upanishad doctrine: the complete unknowableness of the Brahman, by reason of its essential character as being-in-itself.

Compare *Brih.-Upan.*, 4, 2, 4: "Brahman is not so and not so" (*neti-neti*), a passage which occurs altogether five times in this Upanishad.

117. Compare with regard to this Mauthner, *Geschichte des Atheismus*, Vol. IV, p. 443, especially the footnotes. What is there said of Amyot and Remusat is, of course, partly valid for Julien, V. Strauss and M. Buber.

118. Compare Vaihinger, I, c, p. 87–90, and other passages cited on p. 274 of this work. Compare also Schneidewin, *Die Unendlichkeit der Welt* (Berlin, Reimer, 1900), p. 89, etc.

119. That they can be employed in another connexion may be noted, for example, in a passage of Gruppe's *Griechische Mythologie und Religionsgeschichte*, Vol. II, p. 1601, where both concepts are cleverly applied to the qualities of the divinities of a passing antiquity, though otherwise than is usually the case.

120. Compare Reininger, *Metaphysik der Wirklichkeit*, p. 259; Rickert, *Gegenstand der Erkenntnis*, fifth edition, p. 133; Hans Maier, *Wahrheit und Wirklichkeit*, Vol. I, p. 536. The last-named distinguishes three stages of the transcendent: (*a*) the pure transcendent, as the highest stage; (*b*) the presumed transcendent, as the second stage; (*c*) the "*appearance* of a presumed transcendent." Compare the same work, Vol. I, p. 540.

121. I expressly do not employ either here or elsewhere in my work the term "transcendental" introduced by Kant, since I regard it, in its contemporary meaning, as obsolete. According to Mauthner's opinion—as he explains in a masterly fashion in his *Wörterbuch*, II, pp. 306–315—the Kantian term "transcendental" is entirely covered by what we describe to-day as "epistemological" or "epistemologically critical." In support of his assertions Mauthner has quoted a number of passages from Kant. Of the vast difference between *transcendental* and *transcendent*, Townsend, of more recent philosophical writers, speaks very clearly in his work *Philosophical Ideas in the U.S.A.* (American Book Company, New York, Chicago, etc., 1934), p. 253, etc.: "The difference . . . is immense. Both terms indeed denote the surpassing or transcending of certain limits; but the limits surpassed are entirely different. That is called transcendental which surpasses the limits of sensible or empirical knowledge and expatiates in the region of pure thought or absolute science. It is therefore truly scientific, and it serves to explain empirical truths so far as they are explicable. On the other hand, that is called transcendent which not only goes beyond criticism, but surpasses the boundaries of human knowledge. It expatiates in the shadowy region of imaginary truth. It is, therefore, falsely called science: it is the opposite of true philosophy. . . Now, all speculations in physical science that attempt to go beyond phenomena and all speculations on super-

sensible things which attempt to explain their essential nature, are transcendent, that is, they overleap the boundaries of human knowledge. In *violation* of these canons, Fichte, Schelling, and Hegel plunged headlong into such speculations and yet called them transcendent*al*, and the new German philosophers of Massachusetts follow their example."

122. Oskar Kraus examines this question in his paper, *Wege und Abwege der Philosophie* (Prague, 1934), p. 116, where, in my opinion, the view of the metaphysical *nothing* which Martin Heidegger expressed in his lecture *Was ist Metaphysik*, pp. 19–21, is very competently discussed and refuted.

123. From this arises the following consequence, important in respect of our attitude to the S-philosophy: since everything *ego*-related, and everything related at all, is the contrary of what we must think in the concept of the Absolute, we can hardly agree with those who would define the Absolute as a kind of *ego*-related reality (Reininger, *Metaphysik der Wirklichkeit*, S. 388; *Psychophysisches Problem*, p. 290. Here the relative Absolute is conclusively discussed; pp. 161, 170. Compare also p. 287). The number of relative *Absoluta* thus arising, to each of which a perceiving subject would correspond, is of course immeasurable. Hence we should have a plurality of *Absoluta*, a wholly absurd idea. In this connexion many thinkers have committed the easily comprehensible error of beholding the Absolute in something not complete, not unrelated (Dingler, *Das Letzte*, pp. 170, 185, 201). It would be interesting to collect the results hitherto attained in this sphere, and to treat of the abundant material in a book bearing the title "The Microscopical Absolute." The concepts of divinity of most of the religions would find a place here. Indeed, the concept of a personal god, imagined in *ego*-form, can never be regarded as infinite, to say nothing of absolute. Compare George Santayana, *Some Trends of Thought in Modern Philosophy* (Cambridge, University Press, 1933), p. 110. Santayana implies the same "Realm of Essence" (p. 170) as he contrasts the essential Indian expressions Brahma ($= \Sigma \infty$) and Ishwara (personal god). Compare note 6.

124. Compare especially pp. 103 and 273 ff. of this work.

125. Compare Mauthner, *Sprachkritik*, I, pp. 632, 702; *Wörterbuch*, II, pp. 165, 190. Compare Deussen, *Elemente der Metaphysik*, third edition, p. 266 et seq.

126. The treatment of both kinds of antinomies was for technical and intellectual reasons co-ordinated first with the epistemological section (pp. 294, etc.).

127. Compare Mauthner, *Wörterbuch*, III, pp. 129 and 133.

128. I am thinking here, above all, of Mauthner. In his *Wörterbuch*, Vol. I, p. 9, he designates the Absolute as "the witches' multiplica-

tion table" (see *Faust*, I); in another passage he writes: "This word should long ago have been struck out of the dictionary; and as for people who tolerate word-sequences of this kind, such as absolute truth or absolute value, and have no perception of the nonsense in this wooden iron . . . there is no doing anything with such people." Compare also *Wörterbuch*, III, p. 411. "The word absolute belongs only to the substantive God and the verb to be. With these three words we can . . . of course have nothing more to do."

129. Compare also the passage from Spencer, quoted by Mauthner, *Wörterbuch*, III, p. 411.

130. Compare Vaihinger, *Die Philosophie des Als Ob*, pp. 93, 99, 110; Laas, *Idealismus und Positivismus*, pp. 226, 320.

131. Compare with regard to this, Ludwig Becher, *Weltgebaude, Weltgesetze, Weltentwicklung* (Berlin, Reimer, 1915), pp. 252 and 301, where the opinion of Professor Boltzmann is quoted.

132. If we compare these two technical terms, which are apparently comparable with regard to the degree of negation inherent in them, the negative aspect of the "unconscious" is far greater in either of them. Consciousness, which is denied in the unconscious, is a more general concept than personality. Not everything that has consciousness must appear as personality. The vague sense of existence, which corresponds to consciousness in its widest form, is an assumption of the *ego*-sentiment: the feeling of being a personality in its specially pronounced case. One cannot say that the *ego*-sentiment would be, for consciousness and personality, a conjoint super-concept, since on the lowest stages of organic life such a dim sense of existence must be assumed that it fails by a very long way to answer the requirements of the concept of the individual *ego*, of personality. And yet one must say of such consciousness that at all events feelings of pleasure and displeasure are present. These hints should suffice to indicate the *psychological* origin of all the concepts here considered. For Eduard Hartmann's "unconscious" compare, besides his own work, *Philosophie des Unbewuszten*, Mauthner's *Sprachkritik*, III, p. 622.

133. Compare Vaihinger, *Philosophie des Als Ob*, p. 114 (Ueberweg-Heinze-Oesterreich, *Geschichte der Philosophie*, Part V, twelfth edition, Berlin, Mittler, 1928, p. 66). Compare also Mansel, *The Limits of Religious Thought* (London, second edition, 1867). His treatment of antinomies of the Absolute advances towards some sort of an S-philosophy of religious impression. His conclusions are diametrically different from ours. The Absolute, Infinity, and similar conceptions offer unconquerable mental difficulties and antinomies. Since we cannot approach them, it is best to hold fast to the religious faith once delivered. It does not offer *greater* difficulties of thought than these ultimate conceptions.

134. Compare note 126.

135. Compare Reininger, *Metaphysik der Wirklichkeit*, p. 244, and *Psychophysisches Problems*, pp. 250–252.

136. Compare Mauthner, *Wörterbuch*, III, pp. 165–178; pp. 239, 276, 290, 298 of this work

137. Compare Deussen, *Geschichte der Philosophie*, Vol. I, Part II, pp. 115–120, and p. 145, etc.

138. See pp. 267–270, etc., of this work.

139. Reininger, too, speaks of extraversions in a very fine passage of the work *Metaphysik der Wirklichkeit*, p. 44: "The genesis of such mental creations is not difficult to understand. It consists in the projection of the logical into the metaphysical, from an axiological standpoint. . . . It is exactly the same procedure as that by which man created gods after his own image, but equipped with an index of perfection, and then allowed himself to be created in the likeness of these gods, but in a state of diminished perfection. And just as Plato was powerless to devise ideas which had not somehow their prototypes in the world of human concepts, so the absolutists are powerless to name a truth which has not already—in however imperfect a form—become a truth *for us*. . . . But ideals must not exist outside ourselves, if they are to act as genuine ideals, viz. as conscious aims. They can only do this . . . if they are real in this sense."

To this I will only remark that I naturally share the view expressed as to the objective unreality of all these extraversions, but I cannot go so far as to consider the content of our consciousness in the *perception* of the controllable *external world* as such an extraversion. If we are to regard everything around us as extraversions in the wider sense of the word, we cannot do so without establishing a strict difference between (1) extraversions which correspond with ideas and thoughts of our inner life, and (2) those which correspond with sensations and perceptions. To employ the terminology of Locke, the former belong to the category *in intellectu*, the latter to the category *in sensu*. Even in this case the difference between the S and the O philosophy can be observed, assuming that the O-philosophy proceeds critically. The critical moment is here the possibility of control, and that is related only to perceptions which can also occur in other subjects. It does not relate to thoughts and ideas of the individual subject, which are uncontrollable.

140. See also note 144.

141. These words are partly quoted from the last chapter of Deussen's *Geschichte der Philosophie*, Vol. VI, p. 360, as they are so finely characteristic of our present mood.

142. See a passage in the best-known representative of the Epicurean world of thought, the Roman poet Lucretius, *De rerum natura*, I, 44–49, and II, 646–652.

143. Compare Arrhenius-Lundmark, *Die Sternenwelt*, p. 200, although I regard the statements in this passage as a relapse into anthropomorphism.

144. The thought that it might even be that nothing existed is here developed for the sensualistic world-picture. We have already dealt with a similar thought-sequence in the sphere of the epistemological or metaphysical world-picture on p. 317, where we described this thought as *incapable of completion*. George Santayana deals with this problem in his work *The Realm of Essence* (London, Constable & Co., 1928), p. 177. Here is a sentence from Guénon's *Introduction générale a l'étude des doctrines hindoues* (Paris, 1921): "L'univers n'est qu'un defaut dans la pureté du Non-Être."

145. Compare Jeans, I, p. 354. Compare also pp. 73, 170 f, and note 51.

146. The alleged epistemological punctiform S is of course a methodical fiction.

## CHAPTER XII

# A GLANCE AT THE SILVER WORLD BELOW

OUR discussions so far have led to a whole series of negative results. There is no positive Absolute in the sense of the older metaphysical notions. In its place has appeared the black Unknowable, as we call it to avoid the Latin translation of the word, with its theological flavour. There is no absolute truth, there is no absolute metaphysics. It is the place of epistemology, and to some extent of psychology, to deal with the old metaphysical conceptions.

There is no purposefulness, and even a critical philosophy can employ the concept of causality only in an exoteric sense. "In-itself is only an auxiliary concept, a border-concept. Even our world of sense does not *exist for us*. We have come to the conclusion that it is not parallel with us. But neither is it parallel with any kind of other non-human perceiving subject, or any sort of subject that we can ever conceive or imagine.

The sensualistic world-picture shows us a well-nigh empty, well-nigh dead universe. The energy within this nearly complete vacuum signifies a potential life, but in comparison with the enormous vacuum this all but vanishes. And by the side of this always vast, latent store of potential life, actual life occupies an equally modest position.

Still, we were not able to regard the time-sequence and spatial co-existence as sheer illusions of our intellect. If we were not able to follow them into the black metaphysical depths, neither could we dispose of them as sheer deceptions.

Yet matter is an illusion. Mind also is an illusion, in so far as it is represented as an independent principle, and in so far as it is not content with the rôle of a temporally limited consciousness dependent on various accidents. Only indirectly have we arrived at the view that our *ego*-sentiment is not confined to us alone, but that all individual beings whose life we have observed in the world accessible to our senses are equipped with a similar *ego*-sentiment or sense of existence.

From this results a kind of pluralism of individual souls, of special cases of consciousness, whose perceptions of the external world agree fairly well among themselves. Its existence is then the hypothesis of a perception, objective within certain limits, upon the basis of which human science is erected.

Man plays an almost invisible rôle in the universe. Yet not man alone is thus trivial, for even the great star-systems, which together or successively rise and disappear, are as nothing compared with the infinite.

There is no "being;" there is only a rise and fall, there are only changes. There are only properties and qualities; there is no substance. This entered our consciousness through the false orientation of our intellect, in accordance with the illusion of our individual *ego*-sentiment. The substantives of our language lead us astray, through their very existence, beyond their actual content. They are abbreviations and aids to orientation in the infinitely manifold character of the impressions crowding in upon us. Yet they do not correspond with reality. There are no bearers of qualities and changes. What we seek and conjecture behind our substantives are in at most pictures which we form for ourselves of the inner nature of the external world, without approaching nearer to the true facts of the case. Even the soul, and life, our memory, and our *ego*, should not be rendered by substantives, but much more modestly by verbs.

Of a meaning of the universe whose enormous circular movements and unintelligible changes are incomprehensible to us—of a purpose of the external universe—there can be no talk after the foregoing deliberations. Every soul-life is bound up with the complicated chemistry of the nervous system. Where this does not operate neither is there anything spiritual or mental. Our destiny is determined by the necessity of death, toward which we are all hastening, and in which we must perceive a state of non-existence which corresponds to the state before our birth. All else is mythology.

Death likewise awaits our planet, our solar system. All these accumulations of matter will cease to exist in their present combinations and will make room for other creations. We

human beings know only dwarfish spatial and temporal sections. Owing to our brief experience, we cannot pass judgment on conditions within the universe.

We think and live only in relations.

Critical philosophy leads to the despiritualization, the dematerialization, and indeed the desubstantialization of the cosmos.

These are the experiences and prospects which we have brought down into the valley from the highest epistemological mountain-summit.

These are vastly different from the experiences of savages and our ancestors. Having become conscious how little we know and how little we have achieved in the last three hundred years of scientific activity, our present *Weltanschauung* is so negative, so cautious, so sceptically disposed, that future ages will find it difficult to deduct very much from our resigned view of the universe. Perhaps future generations will proceed more critically; perhaps they will find more careful and precise verbal expressions for many of their negative perceptions.

But it will be almost impossible to eliminate anything from our world-picture.

This, of course, does not please those who at all costs want an absolute foundation for human life, a world of solid blocks. There are many opponents of the critical philosophy who, almost subconsciously, reject its conclusions, because it does not lead to the easy establishment of an Absolute, which in former centuries afforded a firm foundation for all that men cared to know; without which they feel that they lack support. And in fact the firmest foundations—God, Being, and the Absolute—have proved to be such illusory and spurious concepts, such products of human fantasy and imagination, that it is embarrassing to discuss them in a scientific work.

We must root ethics, that marvellous flower of the earthly lowlands, as I should like to call it, in other soil. We must adapt ourselves to a world of relations, and realize that all great questions in respect of the Ultimate are insoluble, and lead to spurious problems. The following consideration may to some extent console us for our modest change of attitude:

we are leaving a solidly built mediaeval fortress, and betaking ourselves to a small, tossing sailing-boat. Naturally we feel very severely the loss of our former sense of security. But we have left behind us, in that rather too solid fortress, its underground dungeons and torture-chambers, which Thomas Molina, for example, in his book *Das Leiden im Weltplan*—the most inhuman book I know—so repulsively depicts for us (compare note 99).

Let us therefore settle ourselves in our little kingdom. We will act as though the perceptions of our senses and their intellectual elaboration were the true and real knowledge. We will not embark upon the search for the poles of the Mercator projection. We will content ourselves with the fact that we are entirely insignificant, on the wholly insignificant earth, lost in the depths of the infinity and eternity of the universe. We will content ourselves with this, that in large-scale happenings neither a purpose nor a goal can be discovered. Death will overtake us all after a little while; sooner or later it will annihilate the last human beings, the last living creatures. We must acquiesce in the realization that we, as animals equipped with better brains, have no special mission to fulfil in the universe; that our intellects are only a very little better organized than are those of other living creatures to produce a sort of internal reflection of events in the external universe. Indeed, our modesty has no limits in these cosmic speculations.

We are pitiful creatures. The realization of our poverty is well rendered by Fritz Mauthner by the Swabian dialect word *Armesle*, which he employs more than once in his great examination of mysticism. We must not, of course, forget that all that has just been said concerning the enormous magnitude of the cosmos, and our own insignificance, infinitely enhances the value of what we possess as our very own, what we really know: our life.

Let us remember that when in the previous chapter we stood at the summit of the epistemological mountain, and when under the impression of the limitless, terrifying darkness which lay outspread before us we (so to speak) lost our heads, we felt for the first time the enormous *value of our life*, and this

at once categorically evoked the commandment to love life. This "categorical imperative" has by no means anything metaphysical in itself. It is merely a necessary instinct for the preservation of the cell-states, merely an insignificant link in the chain of the cosmic power of persistence, which, as we have seen, creates far greater and more important things. We will only recall the laws of the non-disintegration of atoms and the non-compensation of the electrical energy of protons by the energy of electrons. From the standpoint of our dear, good, heathenish hominism, we must at length confess, in this chapter, that this imperative means for us almost everything.

We must adjust ourselves to the earth. We all feel the tremendous difference between pleasure and pain. We cannot define them objectively. We dare not even maintain that any "in-itself" corresponds to this difference, for us so enormous. But we do know one thing: we could not live if, in the course of inexpressibly many generations, we had not acquired the capacity of experiencing the sensations of pleasure and pain. We possess this capacity in common with other living beings. Animals also experience pain. Above all, we ought to impress it upon our minds, much more definitely, that the animals are our neighbours and our brethren. This sense of modesty, and the sense of our closeness to Nature, can only profit us, not merely epistemologically, but also ethically. We have become great lords as compared with the rest of the animals; we have conquered them. Let us not act towards them brutally and unfeelingly.

The sensations of pleasure and pain are biologically the most important ingredients of our consciousness, of our *ego*. We all long for pleasure and happiness. No one wants to suffer. These are mere indefinable, primary things. The living organism is constituted thus, once for all. It is not possible not to wish, not to long for, not to desire what appeals to us, what is advantageous for us. This is another aspect of the total causality which we have already discussed.

We can imagine evolution thus: that among the individual cells which form the cell-state, ever since the origin of the cell-state, a zealous mutual support, a lively co-operation, must

have prevailed. Without this co-operation life would be impossible. Where this did not come to pass the cell-state prematurely perished. If to-day we survey the enormous development of organic life—not perhaps genetically, regarding the millions of perished generations and the inexpressibly numerous abortive experiments of Nature, but only from the frog-like standpoint of a successful individual—it seems as if we should have to admit a sort of purposefulness on a small scale, although we have definitely buried purposefulness on a large scale.

Co-operation on a small scale, in the realm of action of the cell-state, is enhanced by the co-operation of many individuals. The ant-heap, the wasps' nest, the termite-state, and the whole of human society are merely individual phases of this development.

The evolution of the intellect brings with it the deepening of the ethical side of human nature. We will not assert that this development proceeds very rapidly. It is sometimes melancholy and mortifying to realize *how* slow and dragging is its gait. But this melancholy, and the sense of shame bound up with it, is after all justified only at the first glance. The word "slow" is as relative as everything else human. Compared with the millions of years since man slowly evolved from reptiles and worms, even from the protozoa, ethical evolution is really progressing very rapidly.

Ethics was first possible when man had become the real lord of the earth; when he no longer had to contend with his earlier opponents, the rest of the animals, for every mouthful of food. Organic life on the earth is limited to a relatively brief section of time, from the conclusion of the Pyrarchaic era until the dawn of the Ice Age, after the cooling down of the earth and the sun. This period, however, is enormous when compared with the time during which ethical beings have been possible on earth. We must not assign absolute values. But from the human standpoint the possibility of life certainly signifies a great advance as against the primaeval volcanic period, and ethical life a still greater advance as against the time when only the strife of all against all prevailed.

Yes, but does not this strife continue to rage? It still rages, but not in its earlier and most sinister form. Animals still eat one another alive: the bird devours the fly, the stork the toad, the cat the mouse, the lion the gazelle. Yet we human beings have made progress in this sphere. We do not carry out our executions as barbarously as of old; we even wage war with limitations. We respect the convictions of others; foreign ways of life are always more or less affecting the general culture of the day, so that our instinctive tendencies to mutual strife are somewhat more restricted than before.

And we are now at the beginning of a great development. Our deliberations as we surveyed the universe from an all-too-high watch-tower assuredly left the reader little reason to rejoice. But now that we are considering things on a small scale, let us abandon the quest for impossible higher knowledge and remain in our own sphere—from which, moreover, we are practically unable to escape. Let us abandon epistemological speculations and metaphysical profundities to which, in any case, we shall never attain, since they possibly do not exist. Let us remain for a season like little children in our world: let us modestly apply only empirical criticism. Let us consider our experiences critically. Let us limit ourselves, in this universe accessible to our senses, to the sphere really accessible to us. Let us for the time being resign the unimaginable dimensions of the universe and direct our attention to the little earth, whose inhabitants we are. Let us confine ourselves to the one billion cubic kilometres of its spatial content and the ten million of years or so of its future. Remoter ages we will leave out of consideration. Practically they do not concern us. I know that I shall die and be no more, but yet I may adjust myself as well as possible for the few years which according to human foresight may remain at my disposal. I endeavour to forget death. If I were always thinking of death, in the sense of the Indians and the mediaeval mystics, I should be practically unfit to live, to work, to create, to give life a positive content. If for a while we leave both death and infinity out of consideration we come to the conclusion that in the humbler sphere of truth, beneath the warming rays of

our long-accustomed sun, there is not such a bad outlook for us inhabitants of earth, and that we may cherish fine prospects and rich hopes for the future, if we can only practise resignation in our own persons: we ourselves shall not live to see them, but our sons and daughters, our descendants will. A splendid era of progress, intelligence, wealth, and success in the campaign against suffering awaits our race. There is no doubt that we are at the beginning of human evolution in the higher sense of the word, that we are a young humanity, and that on the earth, which may be habitable for us for at least ten million years, we have a magnificent sphere of action and tremendous future possibilities. Let us consider how rich is our knowledge compared with the attainments of fifty or a hundred years ago. Let us consider what technical achievements and alleviations of life we possess to-day, and what existed then. Technical progress is indeed not everything, but it is the easiest to survey, since its results are throughout of a concrete nature. Other forms of progress are not so easily grasped by the observer. Yet there is no doubt that in other spheres also man is pressing forward, and constantly attaining higher stages, though this advance is not so striking as in the sphere of technical achievements. Hence there are joyous hopes of the year 2000, 3000, 10000, 100000, 1000000.

How little is this as against the aeons of eternity! The time which lies before us, the time in which we hope to realize our boldest dreams, is barely enough to allow light to reach us from the nebula in *Canes venatici!*

But what enormous possibilities are concealed in this period of time! There is no doubt that man will some day look down upon wars, conflicts between peoples and parties, poverty, illness, and the like, as contemptuously and compassionately as we to-day look down upon all the dungeons and torture-chambers and bestialities of bygone years. Our sympathy for our neighbour, our perception of the majesty of suffering, our recognition of other men's motives, our understanding of them and their frailties, have progressed so far, in so short a time, and signify such great stages of evolution, that I imagine with

infinite joy how ethical relations may improve in the next few hundreds and thousands of years.

To-day we think of the punishment of imprisonment as a brutality. Even a prison with electric light, medical attendance, and visits to the cinema. We realize the restrictions of unfreedom and compulsory sexual abstinence. We regard every punishment as an act of vengeance, and retain it only on economic grounds; we look upon it as a temporary necessary evil, and rejoice if anyone should escape it. We are often ashamed that on economic grounds we cannot abolish punishment, because, unfortunately, many people still continue to exist on a lower ethical level. We are unfortunately unable to renounce punishment as a means of intimidation. But we feel that this state of affairs is unbecoming; it creates for us perplexing ethical difficulties. We recognize extenuating circumstances for youthful offenders; we allow emotions, hereditary traits, irresistible impulses, and so on, to be taken into account. We study psychiatry; we judge conditionally.

And not only in what we may call official jurisdiction, which is merely the collective level of our ethics, but also in daily life, we have a realization of extenuating circumstances in relation to our neighbours' actions; we comprehend their inner life, their inherited as well as their acquired dispositions; we enter with understanding into the problems of their individuality. We feel sympathy for the unmarried mother; we no longer condemn many other lapses which were formerly regarded with sinister severity.

With what eyes to-day do we regard suicides, homosexuals, and unmarried mothers?

On the other hand, we have the feeling that our statute-books, in certain respects, are of a positively retrograde mildness; as when it is a question of parents who ill-use their children, or of any form of cruelty to animals. We hope that the time may not be far distant when parents will be deprived of the right to chastize their children, just as teachers have been deprived of it. Nor will men be permitted any longer to ill-treat animals, as they still do, with a few exceptions, *tacito*

*consensu* of the statute-books, although in many respects by no means *tacito consensu* of public opinion.

Generally speaking, our relations to children, to women, and to animals have notably improved, but how infinitely much still remains to be done! Even to-day we ought still to be ashamed of living in a barbarous age.

Two spheres above all deserve more progressive treatment: our so-called sexual morality, framed on insincerity, crudity, egoism, and an ostrich policy, and our relations to animals, to which we offer nothing better than slavery, hunting, the slaughter-house, and vivisection.

Perhaps I may have an opportunity of discussing a series of such ethical questions in a special treatise. Here, by reason of limited space, I can allow myself only a cursory sketch, at the risk of appearing superficial to the reader. The higher than hominist standard which I laid down as the foundation of this work makes it essential that I should not extend this hominist section out of all proportion to the theory contained in the earlier sections. My ethics must take a place—in comparison with these gigantic questions—like that of Sicily or Corsica on a map of Asia, where Europe appears as a peninsula appended to Asia. Since, apart from this question, we have been constantly concerned with man and his interests, I have allowed myself for once to regard the matter from a *higher* watch-tower.

From this standpoint our ethical relation to animals shows to most advantage. Man has still to tell himself that the horse or ox that draws his cart, the goose and the hen, the elephant in India, and the beasts of prey in the circus, all drudge, or suffer hunger and blows, for the sake of a purpose that is not theirs but ours. How should we feel if some day a race of greater stature than ours were to dominate the earth, arriving perhaps from Mars or some other heavenly body, harness us like slaves to their machines, and practise their vivisection on us? Our relation to animals is ethically dreadful. It is made no better by the argument that until quite recently the white man enslaved the negro, and that even within the white races he deprived his serfs and slaves of all sorts and complexions of their freedom.

Why does he no longer do these things to-day? Or why does he do them so rarely? Simply because the persons interested no longer approve of them. But where they do approve of them man carries on his work of enslavement almost as he did of old.

I say "almost"; but the existence of countless societies for the protection of animals; a public opinion which sometimes —though alas, all too rarely—takes the part of the poor suffering creature; a few laws and increasingly humane practices: all this constitutes the dawn of a better relation to animals. Of course, even in this direction man will not proceed to infinity. Ethics, in respect of animals, as in respect of human beings, has its limits. So long as man fights for his position amidst other living creatures, so long as he is in deadly danger of being attacked by wolves in the steppe, or the *cobra di capello*, or the bacilli of an infectious disease, he carries on a defensive warfare, which no one takes amiss, even if thereby other living creatures perish. Not to exterminate swarms of locusts and other insects, micro-organisms which provoke infectious diseases, hostile parasites, and so forth, would be contrary to our standpoint—an ethical error.

We perceive clearly that if it is possible for me to save the life of a man, or a rabbit, or a streptococcus, as a man I should have no doubt as to what was the proper thing to do. Ethics is first and foremost the relation to our fellow-men; and then to the higher animals. It is properly limited: to offer human blood, even one's own, to a tiger, at the cost of life—as certain pious Indians did of old, and perhaps may still recommend as a pious deed—is mere insanity, is *extra pomerium* of human principles. These are not rectilinear; they adapt themselves to circumstances; they are limited; they appear rectilinear only on a small scale, and only from a very low frog-perspective can they be described as absolute, or, as we are more accustomed to say in this connexion, categorical.

In another passage I have indicated how from an immeasurable ocean of empty space a little energy and potential life emerges. Part of this potential life becomes actual life, and an infinitesimal part of this actual life belongs to man. Finally,

in the realm of this unfortunately so minute section, lies the most beautiful, though of course very tiny, island on which morality is possible. We cannot sufficiently emphasize that ethical life remains restricted to a very small compass, which is limited spatially and temporally by the inflexible laws of Nature.

Temporally, for conditions have not always existed which enabled man to permit himself the luxury of ethical behaviour. Further, morality differs according to *locality*. In Europe pure monogamy is regarded as ethical; there the proportion of the sexes is approximately equal; in New Georgia there are some 1,888 men and 7 women. Has every man there the incontestable right to his wife? Legally perhaps; whether ethically is a question. Legally a man has a right to wealth, even when others around him are starving. The law must be unequivocal and even harsh; whether this right to wealth is always ethical is not so simple a question to answer. That Oates in the Scott Antarctic Expedition of 1912 voluntarily perished in the snowstorm, so as to help his friends and relieve them of the burden of his sick person, was ethical—but in the civilized world he would have been under no obligation to thus to commit suicide.

The struggle for existence and the laws of Nature always rule in a similar manner, and only within their limits can the advanced intellect create the glorious realm of the ethical, than which I can imagine nothing more glorious and sublime.

The reader would do me an injustice if he suggested that I am less enthusiastic for ethical principles in that I am conscious of their relativity. I am not merely conscious of their relativity, their limitation, their inconsistency, and their rectilinear character; I also perceive their practical and utilitarian origin; but it is on this very account that I esteem ethics most highly, and in the future life of our planet I anticipate nothing so noble and beautiful as the greatest possible development of ethical principles. One day we shall feel that our life on earth is glorious and delightful; and we should soon be able to feel this if men were more pervaded by ethics; if from the scutcheon of humanity the greatest blemish—as we must, alas! still call war—were finally effaced!

I am personally optimistic enough to be convinced that this will one day happen. I am also aware, of course, why for so long it could not happen. The intellectual forces from which ethics originates were not strong enough to dominate the selfish instincts of the intellectually weaker majority. These instincts lead to the struggle for existence, which is waged even in the sphere of inanimate Nature, though it is not given this name. What is it that occurs but a conflict if, for example, water at 100° C. is mixed with water at 10° C.? As long as the conflict is not at an end, as long as the temperatures are not equalized, there will be no rest; just as once the conflict ceased only when *Homo sapiens*—and of this species a definite stratum—attained primacy over the rest of all living creatures.

Let us now consider the conditions, the conception, and the ideal derivation of morality; how it should be understood solely in the sense of our critical philosophy.

In order that morality may be possible on earth, it is necessary, over and above the first condition (the supremacy of one race over another—in our case of men over the animals) that humanity should be sufficiently educated, reasonably prosperous. That morality goes hand in hand with education has been more than sufficiently demonstrated by the evolution of human society during the last few centuries. There are exceptions which confirm the rule; yet it cannot be disputed that we have made enormous progress: we have no more torture-chambers, and the dogma of hell is already repulsive to us. Only as an elderly man do I begin to grasp what a profound truth Socrates proclaimed when he said that virtue can be taught. Others, of course, may have said the same thing, but no one, perhaps, has asserted it with greater emphasis.(147) In my own youth, not so very long ago, we were told that this was false, that virtue had nothing to do with education. I can very well imagine that with progressive education—of course, after a sufficient lapse of time—certain ethical horrors will cease of themselves, just as some day syphilis, tuberculosis, and cancer will cease. That a certain level of well-being is necessary to render human morality possible is not always willingly conceded; but personally, I

regard it as a matter of course that one must presuppose, in any one from whom one expects ethical behaviour, a certain state of non-suffering and the satisfaction of primary needs. One can hardly preach to a man who is hungry or thirsty, or in sexual need, that he should not eat, drink, or love. The Buddhist anchorites, and perhaps our monks, may be adduced in support of the contrary opinion—and here, of course, I am not speaking of fanatics and fakirs. These are rare exceptions; but we have to examine the normal condition of human society. Fortunately, the human race, without being aware of it, is advancing with giant strides to a condition of greater well-being. Here technical progress is enormously important. To-day the normal poor man is far better off than the mediaeval knight with his pinewood torch, his evil-smelling hearth, and his barbarous den, stiff with dirt, without bath, music, cinema, radio, telephone, railway, books, and so on. The latter was in fact restricted to crude tippling and crude sex.

Where do I see ethics? In the campaign against suffering, in the struggle for the promotion of human happiness, and not merely one's own, but also of that of others. In this we think not only of our relations and friends, not only of those who are closely connected with us, but of all men, and in certain cases even of the higher animals.

The theory of ethics can be stated in a few words. For ethics, after all, is mainly a matter of practice, which we shall now attempt to describe. No one who can experience pleasure and pain ought to suffer pain, so long as man can prevent it; everyone should have as much pleasurable sensation as possible, so far as this aim is economic. This is the purpose which should be served by the laws which we may best call the laws of human righteousness, and which tend to ensure that the sum of pleasure and happiness shall be shared among all as abundantly and equably as possible. The superlative for which it strives is of course *not attainable*: but all progress means happiness, and an achievement. Our first and foremost endeavour should be to ensure that our fellow-men should not *suffer*; that is, to wage war upon suffering. A great work, and its aim is unattainable. Men (only consider the great dys-

teleology in the universe) must unfortunately suffer, and suffer greatly. But even if we must suffer—as the results of forces outside us, the dead unconscious forces, and in consequence of our own all-too-complicated and often unhealthy organic constitution—at least it should not happen that men suffer because of other men, that they suffer because of things that other men can prevent, or could have prevented, but which, however, they have not prevented. It would be a mighty achievement if no single pain or grief on earth should proceed from men; if no creature possessed of intellect should any longer be the cause of suffering in another intellect equipped with sensation. And now to the final and philosophically most important question.

This is the question of a foundation of ethics, which for us is all the more important in that it constitutes the essential point of a whole literature, which now and again seeks to establish absolute ethical principles, and to bring ethics into union, as the religions do, with occult, spiritual powers and mysterious rites.

We have seen what ethics is. The most important element therein is the war upon *suffering*. But its issue is an entirely mundane purpose, the attainment of a condition of non-suffering, and the enhancement and extension of pleasurable sensation, first of all among human beings, and then among other living creatures.

We uphold the view that the motive of morality, in the negative sense, is *sympathy*, *compassion*, *Mitgefühl*. In the positive sense, it is the endeavour to regulate everything in the world in the best possible manner, for men and their fellow-creatures. The pre-condition of this sympathy, which we conceive as highly positive, is the consciousness of how dismal the universe really appears, how dysteleologically and irrationally it is ordered as regards humanity; and consequently, the consciousness of human misery, and finally, the determinate character of all human actions.

If we keep this directly before our eyes, we must be filled with the greatest compassion for the human destiny. We must be convinced of the truth of the proposition: men are very

wretched, much more wretched than bad. Every human life is a life condemned to death; the little happiness that man enjoys here on earth is like the good prison breakfast of a criminal about to be executed.

The reasons why we regard humanity thus and not otherwise have already been exhaustively discussed. Man, an ephemeral nothing on an ephemeral little asteroid, doomed to destruction upon a planet devoted to destruction, amidst the enormous and meaningless revolutions of the heavenly bodies in the measureless breadths and vacua of the infinite—but endowed with an infinite yearning for life—thoroughly deserves our compassion. The more immeasurably eternity and the darkness of the grave outspread themselves before our eyes, the more desolate and purposeless this infinite vacuum, and these irrational, raging movements of the ionized atoms in the glowing suns, the more surely does this cosmic sympathy increase. It matters little that to-day only a few are capable of feeling it; intellectual evolution has proceeded so rapidly of late that in a hundred or a thousand years humanity will hardly be recognizable.

It would perhaps be fitting to say something about *determinism*. For me it is beyond a doubt that our sense of freedom is an illusion; just as much an illusion as the sense of our substantial *ego*, while life, consciousness, memory are really *verbs*.

Man has consciousness, and imagines that he can freely decide, while in fact his decision depends upon the strength of his motives. Education consists in the strengthening of the social motive, and in the weakening and suppression of anti-social counter-motives. Our consciousness of freedom is an illusion which arises from observation at all too close a range. We cannot survey the whole, and the details are seen distorted (compare p. 128).

Let us imagine that someone suddenly begins to shoot in a highway full of traffic in a large city. People are incapable of thinking of anything other than escaping at all costs, taking cover, saving their lives. This was well illustrated in a scene of the monumental film *Metropolis*, which was shown a few

years ago. Only one thought, one aim—thousands of men hastily fleeing to get into safety. Compare the scenes at the fire at the Ring Theatre in Vienna, on December 8, 1881. Such examples occur in all countries; thousands could be adduced. Of course, it is not always a question of such elementary motives. If we really know one other, we know very well how this or that person will react to a definite stimulus; who will become excited or angry, and who will remain calm under an insult. And if we now and again are mistaken, we conclude, quite correctly, that we did not really know the person in question.

Whether a dog barks at me, or a stone falls, the same thing is true: obviously in each case it could not have happened otherwise, and the law of causality ordains that man shall not behave otherwise than he does. It seems to him, indeed, at least for a time, that he could perhaps act otherwise. But this is at the moment when the action is first prepared, when his motives are in mutual conflict. If one is conscious of motives it seems, at a first glance, that one must have free will. It was this free will, which is and remains an illusion, which first afforded a pretext for the inhuman intellectual fabrication of sin by the Scholastics—that is, of original sin, and its consequence, eternal damnation; it also resulted in the utterly degrading mutually hostile prejudice of ordinary human beings, in the assumption that one man would *wish* to injure another; that he might act *differently*, and so on, but that out of malice he deliberately did not act differently.

Of course, even in this present state of the human intellect men have anti-social instincts, to which they succumb; practically, then, they behave badly; and in intellectually backward ages they behaved even worse. But the means of improvement consists in the strengthening of the social instincts, and the weakening of opposing instincts, which can be achieved by means of *instruction*. But not by hatred and vengeance.

It is interesting to consider the following three stages:

(1) In hunger one animal tears another to pieces. Objectively it certainly acts unethically, but it is *unconsciously* unethical. Instinctively it satisfies its hunger and neither asks nor troubles

about the feelings of the other. It cares nothing for the other's suffering; it does not diminish but rather increases it, though not intentionally.

(2) One man tortures another in a refined manner. His intellect is already so far developed that he can realize what he is doing, and he expressly increases the other's sufferings. He intentionally does that through which he believes he will best achieve his infamous purpose. His intellect, however, is not so far developed that he is aware of the detestable nature of his deed: he does not stand at such an intellectual and ethical height that he *could* no longer do the other an injury. Egoism is the primary and older stage in comparison with altruism: that is, egoism extended to the whole species.

(3) The man who from sympathy and understanding is no longer capable of harming another.

In a higher phase of evolution the cell-states reach the stage of general unselfish and sacrificial co-operation of the cells. At a still higher stage we have advanced so far that even the individual cell-states "co-operate" as individual beings.

As in certain forms of energy molecular movement assumes a definite direction, whereas in heat-energy this movement is quite irregular and confused, so it is in the evolution of the cell-states. Phases of co-operation result; and in these we have already made most promising beginnings, though we still have far to go before they are completely realized. In the universe this process has probably been repeated innumerable times, but to the subjects concerned it appears as the complicated process of becoming conscious of a whole series of perceptions, which must necessarily be accompanied by the sympathy which is a condition of ethics.

This comparison between the molecular and the intellectual-ethical directional striving is of course not strictly scientific, but it is one of those metaphors which make the extremely confused and complex events in the environment accessible and comprehensible. The striving after systematic unification and comprehensive super-concepts is, so to speak, a biological instinct for orientation in the domain of unobservable pluralisms.

Carried to extremes, this passion for unification obviously leads us astray (see p. 287). Here, however, we are far from being concerned with impossible "absolute" knowledge, but merely with orientation within the limits of naïve realism.

Viewed objectively, ethics does *not* lie in the higher spheres. The biological necessities of organisms whose satisfaction is conditioned by pleasure and absence of pain, are very banal, very primitive. But it is just this fact that one must keep in mind. Ethics, in pursuing what was regarded as "ethical," has often proved itself on the wrong track.

The fakirs who sit on the points of nails, the mediaeval flagellants, the negroes with their peculiar religious dances, the Red Indians and the islanders of the Pacific who inflict on their nubile sons and daughters strange and painful ceremonies (lying in scorching sunlight for days together, enduring insect bites and stings), the Hindus with their barbaric fasts, the unnatural suppression of the sex-impulse in Europe and India, and a thousand other things from which I select only these at random—all show how frequently men go wrong in the pursuit of ethics. A whole volume, and indeed a thick one, would be required merely to indicate such wrong ethical paths. Bertrand Russell speaks of the harm done by Puritans with good motives,(148) and if we were to dilate on the subject we could show that there are magical and metaphysical motives in abundance which lead to such encroachments. The magical morality of the South Sea islanders leads to the crazy, insane religious dances of painted savages, and the metaphysical morality of the Indians to *sati* (the burning of widows); while in Occidental civilization such morality led to the torture-chambers of the Inquisition and to witch-trials.(149) Further, it has led to such books as Thomas Molina has written, and countless others before him.

Belief in the immortality of the soul and in "Providence," with original sin and hell-fire, does not lead to sympathy and ethics: on the contrary, he who is immortal does not need such love and such consideration as the man condemned to death. God, in eternity, can certainly indemnify him for all

the evil which we have done to him here below. Let us deliver his soul from the devil and burn his body.

Nor do the Indian beliefs in metapsychosis and Karma lead to a complete ethics. Every human being has the fate that he deserves; even the poor widow just eight years old, who is treated worse than an animal, deserves her fate; probably she sinned very grievously in her earlier incarnation. It serves her right if evil befalls her now.

The intelligent guidance of the world and the empirical evil in the world must lead men to draw the following conclusion: Who suffers, deserves to suffer; he suffers punishment only because of his sins. God would not let this sinner suffer if he did not deserve it, or if he could not abundantly requite him for his sufferings in "the beyond." Such views tend only to brutalize people and to stifle compassion.

I believe that, on the contrary, Theism does *not* lead to a nobler morality. Its powers of ethical argument reside merely in intimidation: after all, men will do all sorts of things because they are afraid of hell.(149) But Theism does not allow higher and nobler feelings to emerge. The evil in the theistic world can only be an intended evil—intended by the highest, most righteous Being—and is therefore deserved by those who suffer. So why should one help them? For the thinking man there is no escaping from such trains of thought. But since the majority of people do not think, this has rarely occurred to them. For Theism good works are in a certain sense an inconsistency. Hence *our* ethics is, as a matter of course, merely natural, merely utilitarian. It is better for men that they should not suffer. In the course of time they have regulated life on earth so that they interfere with one another as little as possible. Everyone knows, of course, that present conditions are in need of very great improvement. We should therefore persevere in the endeavour to draw yet wider and wider circles into the ethical community, not limiting ethics to nations, creeds, complexions, or human beings. All creatures that feel pain, that possess the faculty of feeling pain, have a claim to be helped against it.

*Our* morality seeks to eliminate war, poverty, and bad social

conditions, and to sweep away political, inter-confessional, and international barriers. It requires no unreasonable asceticism, but an economical moderation; it has understanding for everyone; it sympathizes with and enlightens everyone; it never wreaks vengeance, and it is never capable of hatred.

It will, of course, be realized only in the future, for it demands an intellectual level which most people to-day have not yet attained. It was Goethe who said: "He who has science and art has religion; as for him who has neither, let him have religion!"

In these words religion was defined as a fiction biologically necessary for a period in which the intellectual level of mankind was not high enough to dispense with such expedients. Beasts of prey must be confined in a cage, so that they may do no harm to other living creatures. It was thought that men—that human beasts of prey—must be kept in check by the similar use of force, and perhaps from time to time it was biologically useful to those who were not beasts of prey. But as soon as men cease to be beasts of prey the physical and ideal cages become superfluous. We are opposed to all prisons, even to the ideal one. Let us rather enlighten than imprison.

I feel this: pain is evil. Others, who see things as I do, also feel that pain is evil. I desire that no one shall inflict pain on me, and I assume that others, who are like myself, desire the same for themselves. I adopt the following standpoint: I will not injure you, and I expect that you will not injure me. But at the time when a few men first occupied themselves with similar trains of thought the anti-social instincts of most of their contemporaries were altogether too strong; there were too many "beasts of prey." The first human beings who came to believe that men ought to be moral—that is, live economically and do one another no injury—were afraid that the tender blossom of ethics would not be able to subdue the anti-social human instincts. And since superstition flourished simultaneously with human evil they made use of it, for they discovered a magical or metaphysical—briefly, a religious—basis for obviously practical and even hygienic precepts. And

comprehensibly enough, they enacted not only certain moral laws, but principally religious laws and ceremonial precepts which arose from the magical *Weltanschauung* of the time. Men would not have subjected themselves to simple injunctions based on utility, economy, and the like; but, on the other hand, they were willing enough to subject themselves to magical ceremonies, in the belief that a supramundane Being might visit their offences with eternal punishment.

And the anxiety suggested to men in this manner takes the form of the bad conscience. When for generation after generation something has been thoroughly drilled into men in their youth, it seems to them in the course of time that it must be inherent in them.

Only egoism is inherent; that is, life is firmly anchored in us, the "cosmic inertia" is active in us, as one might say metaphorically. Ethics is the modification of this egoism on a higher level, and its extension to neighbours, to ever larger and larger communities.

On a lower level the superstitious dread of the fetish, of hell, and purgatory, and magic, was the main motive for the ethical life. Ethics was based on the constant terror of eternal punishment in hell, in the sense of the well-known mediaeval formulae: *Quis me sustinebit, ne descendam moriens*, and *Beati in coelis poenas damnatorum videbunt, ut iis beatitudo in coelis eo magis complaceat*,(150) and was in correspondence with this terrific proposition, before whose astounding egoism we recoil with a shudder. Of these two classical passages I have already spoken more than once; they deserve always to be borne in mind, so that our attitude towards these things may be the correct one.

After these considerations, are we to share Kant's esteem for the moral law within us, for his foolish "categorical imperative," which to-day must seem to us as childish as the unctuous discourses concerning "absolute values" of many much more recent philosophers? What is there categorical in the pitiful dwarf *Homo sapiens*? Above all, what is there categorical anywhere? For me the "categorical imperative" of Kant is to-day merely the relapse into atavism of a pietist

ogling at contemporary religious ethics, who thinks that ethics always needs the whip. Hence Kant's "postulate."

Great as Kant must still appear to-day in his first *Critique* of 1781, just so pettily does he capitulate before contemporary prejudice in his second *Critique* of 1784. The Indian Brahmans assuredly regard the burning and torturing of widows, the repulsive birth-rites, the filthy baths in the Ganges, and the crude and unnecessary self-inflicted torments of fakirs, as a "categorical imperative." And so with the inhabitants of the New Hebrides, with their foolish dances, and their faces painted to unrecognizability. Only they are incapable of expressing it in so scholarly a manner. Our respect for the moral law within us—that is, for the Kantian version of atavistic apprehensions of the pains of hell under such and such circumstances—for this is the meaning of the so-called "law," alleged to be inherent, but in reality imparted by education, and no law, but an atavism, a prejudice—has already long ago receded before our simple respect for the majesty of pain, for the suffering man and the suffering animal. To help out of sympathy—without magic, which is only superstition—without metaphysics, which does not exist for us men and can never exist—that is the quiet and unpretentious, but therefore all the more blessed requirement of the ethics of the future. Even respect for the starry heavens is undoubtedly considerably diminished to-day. Their distances crush without elevating. We feel only our dwarfish, miserable state of existence. It is beautiful on earth, and a few million years of glorious, rich, healthy life lie before us, for the end, which must come, is still far off. But death, and only death, gazes at us from the empty sidereal spaces.

What have we won from the infinite distances of its vacua? From its absolute zero? From its desolate, glowing suns, where sextillions of ions collide senselessly with one another, where the strangest and craziest rays have their origin, some of which would be absolutely lethal if they ever beat upon us? Let us remember that to approach within ninety million kilometres of Antares would mean the end of all life on every planet within that distance. This we know of a single star;

but how many others are there of which we know nothing, which, with their frightful heat and uncanny size, may be still more dangerous?

We have great thoughts concerning infinity and eternity, concerning the dysteleology of the cosmos, and the unknowable character of the "in-itself," to say nothing of the great neutrals —but this boundless cosmic aimlessness, I repeat, does not elevate but crushes us. If we feel joy in life and work, it is only behind the curtains of forgetfulness with which for the time being we veil the sky and everything supremely vast. Astronomy and critical philosophy afford us neither *joi de vivre* nor an optimistic *Weltanschauung*. A glance at the infinite universe shows us only the dwarfish, casual, superfluous, insignificant nature of our existence, and is well calculated to give us the most intense inferiority complex. There we mean nothing, are nothing, can do nothing. A glance at the heavens is like a glance into an open grave, a glimpse of the dark mask of the unknowable and the non-existent.

The sole positive feeling we derive from all this is the cosmic *sympathy* with all real, presumed, and conceivable living and suffering beings in the endless latitudes of the macrocosm. A sympathy which increases to Schneidewin's *apeirotaraxiae*.(151) A great and exalted compassion, which replaces our earlier reverence at the sight of the starry heavens. But a compassion which, unlike our sympathy with suffering earthly creatures, is entirely superfluous. . . . We cannot help the suffering inhabitants of other worlds.

On the other hand, our small earthly compassion is good, practical, economical, the creator of all good deeds. I conceive it something like this: Two men are cast adrift on a wreck. Both realize that their days are numbered. The wreck will sink, or be shattered on an invisible reef, or they will both die of starvation. They see that any attempt at rescue is hopeless. They know that they must both soon die. Should they not therefore comfort and sustain each other, try to help each other, as well as they can? Should not that one of them who has found a keg of water or a packet of biscuits give of his

superfluity to the other? And will not each try to alleviate the other's dying pangs in the face of death?

Such, after all, is our human life. There are only differences in degree. Let us take as a basis a billion years, a second in the cosmos. It is of little consequence if one has to live $1/10^{14}$ or $1/10^{10}$ of this "second." And yet the first fraction means three days, the second a hundred years. Hominstically this is a tremendous difference. Such things cannot well be expressed numerically; and even less by epistemological speculations. Men who one and all are condemned to death, who are one and all creatures deserving of pity, being conscious of their sorrowful fate, on beholding the boundlessness of cosmical non-existence, which night after night stares down upon them from the sidereal spaces, will have sympathy with one another, each beholding in his fellow "one also condemned to death," and will strive to mitigate for one another their sorrows, cares, and pains. That is *the* ethics in broad outline. *Regarded from a higher standpoint, men are only poor creatures worthy of commiseration; what they are besides can be seen only from the frog's perspective. . . .*

But this conception, which is yet so majestical and sublime, this morality which naturally comes into existence in a world of relations, this morality of atheism and agnosticism, is displeasing to many.

From an age when there were more beasts of prey on earth than there are to-day, when belief in witches and hell made beasts of prey of men, the old but entirely unvenerable opinion survives: *Nemo deos non esse credit, nisi cui deos non esse expedit* . . .(152) according to which atheists are sinners who disbelieve in God only in order that they can sin undisturbed.(153) Hence many thinkers wished—beginning with Socrates and Plato, and many still wish to-day—to make ethics absolute, to have an absolute foundation for it. We have shown throughout this whole book that this is not practicable. We have shown that with his so-called ethics on an absolute basis man has merely coined a more elegant term for the old ethics of eternal hell-fire; we have shown that the foolish, impossible, positive metaphysical and magical *Weltanschauung* does not

lead to ethical heights. Some will object: men are not yet ripe for these views. For the present it is still well that they should behave "as if" there were a punishing God. But is it not better to raise the general level of education so high that this unworthy compromise should be confined to an ever-diminishing circle?

And who was improved by "the metaphysical basis of morality?" As we know from History, there were no crueller ages than the ages of robust faith. So much barbarity and bloodshed as the pious Middle Ages and the pious centuries that followed them have to show—not only in Europe, for Islam and Brahmanism were no whit better—has not been seen on earth for a long while. And we are still only beginning. In a thousand, in ten thousand years things will be better. The stars will certainly look down upon us just as pitilessly; icy space will environ us just as coldly. And even then men will be the victims of death. . . . But they themselves will no longer inflict pain on one another, and above all there will be less pain, for much suffering will have been overcome by human knowledge. . . .

There will be a *silver world*; a golden one is not possible. Everything cannot be of gold; silver also has its value. . . . But our present world is far from being made of silver; it is not even yet of iron. . . .

## NOTES

147. Compare Walshe, *The Quest of Reality* (London, Kegan Paul, 1930), p. 35.

148. Compare Bertrand Russell, *Sceptical Essays* (London, George Allen & Unwin, third edition, 1934), p. 16: "It seems that sin is geographical. From this we draw the conclusion that the notion of sin is illusory, and that the cruelty habitually practised in punishing it is unnecessary. It is just this conclusion which is so unwelcome to many minds, since the infliction of cruelty with a good conscience is a delight to moralists. That is why they invented Hell." Page 34: "No man can achieve the greatness of which he is capable until he has allowed himself to see his own littleness." Page 62: "It may be laid down that any great ideal which people mention with awe is really an

excuse for inflicting pain on their enemies. Good wine needs no bush, and good morals need no bated breath."

149. Compare Bertrand Russell, *Sceptical Essays* (London, George Allen & Unwin, third edition, 1934), p. 106 et seq.: "The chief obstacle to the success of Christian missions in China has been the doctrine of original sin. The traditional doctrine of orthodox Christianity—still preached by most Christian missionaries in the Far East—is that we are all born wicked, so wicked as to deserve eternal punishment. The Chinese might have no difficulty in accepting this doctrine if it applied only to white men, but when they are told that their own parents and grandparents are in hell-fire they grow indignant." Compare also p. 369 ff.

150. Compare Thomas Aquinas, *Summa suppl. quaest*, 94, 1.

151. Compare Scheidewin, *Die Unendlichkeit der Welt* (Berlin, Reimer, 1900), pp. 103, 126, 144.

152. Compare Mauthner, *Wörterbuch*, II, p. 18.

153. Compare also Blum, *Lebt Gott noch?*, p. 526.

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## CHAPTER XIII

## CONCLUSION

IF at the end of our deliberations we inquire as to the final result in respect of ultimate questions, so far as their solution is accessible at all to humanity, we can theoretically concede the possibility of three kinds of *Weltanschauung*—a theistic, an atheistic, and an agnostic.

There is no doubt that of these three world-views only the *last* can be right: For we do not know, we shall never know, how ultimate problems are to be solved. Their solution lies in the unknowable, not only for us but for all conceivable intellects whatsoever. The answering of these questions lies beyond all perception, beyond all knowledge accessible to a subject: for the most part they are spurious problems, and the answers we think to obtain are only extraversions of our own inner selves.

There is, of course, from the critical standpoint, no very great difference between the agnostic and the atheistic solution of ultimate questions. Agnosticism says it is not acquainted with the principle of the universe, does not know whether there is such a principle at all, or whether, strictly speaking, there is *anything*. Atheism, too, of course, expresses itself in the negative sense, but its negation is somewhat less general. It denies only that the principle of the universe is in any way parallel with humanity: it denies that this principle looks like an exaggerated *Homo sapiens*. Agnosticism is quite correct, in its sceptical comprehension; atheism gives an abridgement of the improbability that the principle of the universe happens to be an exact but enlarged copy of our *ego*. It declares that it is most highly improbable that with the infinite wealth of possibilities as to the theoretical appearance of the Unknowable, just that one possibility should prove to be true that the principle resembles a magnified inhabitant of our earth. The inhabitants of other worlds would be equally justified in making a similar assumption, and on this hypothesis everyone would

possess the same right to seek in the unknowable the magnification of *his own* individual *ego*. Our deliberations hitherto have shown us: we do not know, of course, what may be hidden behind the universe accessible to our senses, or whether there is anything at all hidden behind it, or anything to be looked for, but we can maintain with infinite probability that the universe as a whole is not regulated after a human pattern. And if we then remember that, at all events according to our present knowledge, the psychic cannot persist without a brain, without nerves; that life without protoplasm is not possible, and further, that a personality, an *ego*-like structure, cannot be infinite, since there is in every *ego*, every personality, every subject, as a tacit assumption, the contradiction of the *ego* and *non-ego* within and without—if we finally take it into consideration that an all-kindly and almighty being could not exist simultaneously with the undeniable existence of evil in the world, that there could be no "absolute existence," no absolute spirit, and no absolute being—after all these considerations we shall grant to the agnostic solution, and also to the atheistic, such a degree of probability that it practically could not be very far remote from certainty.

Atheism and agnosticism mean for us practically the same thing. We do not know how the Ultimate is constituted, but we do know that it is otherwise than we believed in our childhood.

In the universe there is no progress, no path to perfection. If anyone considers a brief period of the history of our earth, and attempts to pass judgment upon it, he will fare much as though someone were to observe something for a few seconds, and after this observation were to draw conclusions as to the evolution of thousands of years. If I really bring the frog-perspective into operation and observe that things are going well with a certain man, that he is rich and strong and powerful, I shall at once generalize from this small specimen of events, and sum up my individual experience in the presumptuous words: "The universe has a manifest tendency towards perfection."(154) I cannot or will not see that in a relatively short time men and the terrestrial globe perish, and that history,

with the rise and disappearance of men, cultures, and heavenly bodies, will be repeated again and again, quite redundantly. That generations are heaped on generations, without gaining any benefit from this repetition; that men experience far more suffering than happiness, to say nothing of animals.

But just as the novel and the cinema always depict only the love and happiness of two handsome young people, and disregard the long years of bitter grief and suffering endured by old, sickly, and ugly persons, so in our own case, "because the dwarfish chapter of known history reveals a little happiness and progress, we would close our eyes and expressly fail to see the gigantic dysteleology of the world-vacua. Consequently we speak of progress, of development, of an integration, and so forth." Whosoever has pondered with us over the problems of this book will certainly look away with tears in his eyes when *children* chatter childishly of the perfection and purposefulness of the universe, of Providence and its decrees. Our indulgent human words are at best for our daily human use. For great things they are not valid; they derive from a time when great things were unknown. Let us imagine in the midst of Siberia a small garden, where oranges grow in a hothouse. Someone enters the hothouse, sees the oranges, without observing the cold dreary surroundings, and teaches people that the whole of Siberia is full of oranges. Something of the kind happens with us if we believe in the perfection and the progress of the universe.

The more we concern ourselves with ultimate questions, the deeper we penetrate, the more we perceive the profound truth of the converse of Bacon's dictum: "A superficial knowledge of Nature, life, and men leads to God, a profound knowledge leads away from God."

That on the whole things are going fairly well on the earth to-day, because we have exterminated most of our competitors, the large and powerful beasts; because through the millennia we have adapted ourselves to the life-conditions of our environment; because it is our instinct to imagine the O accessible to our senses according to the pattern of our S; lastly, because most of us think that ethical behaviour in our fellow-men is

best ensured by means of anxiety and fear: all this has led to the present widespread faith in a personal God, and the excellency of this world. But if we climb to the peak of the mountain, and thence behold the enormous magnitude, the frigidity, and the inhospitality of the universe, consider our minuteness and the brief duration of our life, and perceive in the higher regions only darkness, and nothing but darkness, we shall in the end be persuaded to revert to a different world-view. Theists with a bird's-eye view of the universe are hardly possible.

There are yet a few minor inferences, which to us appear extraordinarily important from the standpoint of our individual fate. Among them is the belief in the immortality of the soul. It would be ethically wrong if we attempted to deprive a sick and suffering man of the always great consolation inherent in this thought. If, however, we think scientifically and logically we are pledged to a sincerity and love of truth which exclude all hope of personal immortality. Subjective comfort for the sick and suffering and hard scientific reality have little to do with one another. There is not the faintest doubt that cell-states arise and pass away. That everything arises and passes away, since $\Sigma\infty$, which alone has no beginning and no end, is, as a unity, merely an abstraction of our intellect and a mental creation. On time and space, on the content of the space-time universe, on the totality of being, we dare not pass judgment. But individual things, to which not only we ourselves, but also the stars and the star-systems belong, arise and disappear.

During our life we play with philosophical concepts and systems. Yet the cessation of our *ego* at death is inevitable. The *ego*-sentiment, our memory, finds its end in death. The probability of this proposition is once again so great that it practically amounts to certainty.

We human beings have fashioned many proverbs and aphorisms in the long years during which we have gathered experience. Such an aphorism, for example, is the familiar saying: "The deeds of man should work blessing for all eternity."

This proposition has validity only so long as the word "eternity" is not subjected to criticism. Let us reflect what we know of the noble deeds and thoughts of human beings who once lived on the world from whose elements, through some primaeval catastrophe or cosmic change, our solar system at some time proceeded. We are near neighbours in the immediate time-sequence, and we know absolutely nothing of one another. We are some milliards of years removed from one another. What is that in comparison with eternity!

With regard to these questions, the words that Goethe spoke concerning our immortality to his faithful Eckermann on the day of Wieland's funeral are often quoted. Goethe said much in the course of conversation which he hesitated to write down. He certainly did not mean seriously what he said about "the duty of Nature towards us men." What duties can dead gigantic Nature have towards us? How can we earthworms enforce the performance of this duty? What sort of duties are they which cannot be discharged in any case, and whose performance can never be enforced? The passage in Eckermann's *Gesprächen* ("Talks with Goethe") has often been commented upon and discussed. The genius of Goethe deserves this consideration. It is, however, only as a matter of literary interest, only as an act of piety in respect of a great poet, that we concern ourselves with it at all. Unhappily it does not affect the unequivocal nature of our fate after death that there have been men who did not believe in this end. There seems, indeed, to be an instinct in human beings which makes it impossible for them to pursue to a conclusion the idea of non-existence after death, in all its oppressiveness and dreadful inhumanity; an instinct which leads us to imagine our condition after death as in accordance with the pattern of our daily life. All these views, so far as we have surmounted them, seem to us relics of the old anthropocentric conception. Our deeds, our soul, our *ego* must outlast eternity! So thought and spoke only those who held the old views of the age before Copernicus and Galileo.

There are still to-day many who heartily rejoice that there are so few atheists. Perhaps they are really few. But it is

difficult to see why we should rejoice over this. It is actually difficult to work our way up to the height which means for us the abandonment of the theistic prejudice. We are afflicted with so many instincts which force us unconditionally to the acceptance of an anthropomorphic and anthropocentric world-order. How much practically fruitless mental labour has to be performed before one is capable of abandoning the prejudices dictated by these instincts! I am not thinking of the superficial atheists, who from time to time confess to this *Weltanschauung* simply because they are modern, and not because they are capable of basing their views on philosophy and natural science. A monstrous amount of labour, self-conquest and self-discipline is needful in order to reach such a melancholy, pessimistic, resigned world-picture.

All those who do not reflect, who are too comfortable, who egoistically expect from the future a vast reward for their own alleged virtues, who will not abandon hope of the prolongation of their own petty lives, who long for epistemological anaesthetics, who cannot escape from the concepts inherited or instilled into them in their youth—these all belong to the camp of the theists. Of such there are, of course, an enormous number, the preponderant majority of the human race. Atheism, on the other hand, offers no tangible advantages, either here or beyond; it is sad, resigned, pessimistic, grey, and gloomy. Its only possession is a higher truth, which most people cannot grasp.

The sole thing positive in atheism is its great cosmic compassion. For the atheist men are poor pitiable creatures, orphan children condemned to death. For this reason he feels for them only compassion; he will help them in their sufferings and sorrows, and will not judge and punish them. He will be helpful to those condemned to death; he will mitigate their agonies; he acts like Simon of Cyrene when he helped Christ to bear the cross on his last journey. Much more one cannot do to help men who are all doomed to death.

Atheism recognizes the sadness of human destiny, and the impossibility of escaping permanently from sensations of discomfort and pain, more acutely and more profoundly than

any other *Weltanschauung*. In spite of this, atheism sees no reason why men should cease to procreate. The advocates of this view are usually too critical not to realize that one cannot hope successfully to contend against the sexual impulse, the strongest of the instincts. One might as well fight against gravitation, and wish that the sun might pursue its course in the reverse direction. Moreover, the atheist is thoroughly impressed with the view that our earth, through a vast series of generations, will be a "silver world"; that it should offer to men—who, when all is said, will always be pitiful creatures and condemned to death—a relatively better existence than is ours to-day. We believe that after all the sufferings and sorrows which man and beast have endured on earth since the tertiary epoch, we may yet look forward to a relatively better future. We are too critical not to perceive that life on a small scale offers something beautiful and precious, and we strive to ensure that life may please us, since ineluctable destiny has compelled us to take pleasure in life. Regarded from a higher watch-tower, purely and objectively, life—compared with the infinities of empty space and the eternity of death—is worthless. But it is inherent in the irrationality of existence that we cannot place ourselves permanently at a higher than a human standpoint. Life is short, and ends in death. But even under this hypothesis it can be improved, and to the life-hungry subject it can, for a time, appear beautiful and worth living. We make our peace with life as with something given. We recognize its empirically beautiful aspects, although we cannot deny its metaphysical lack of value.

We shall soon be dead. Everything will perish with us. *Vanitatum vanitas*. But meanwhile we are not yet dead, and we rejoice with the Teucros of Horace (155) that there is still a bright and cheerful to-day, and that the sad, gloomy morning is yet far off. The enormous cosmic inertia compels us to love this silver life. There is no golden one.

I believe, on the other hand, that it would be much more logical for believing Christians than for atheists to wish that after baptism life might come to an end, and that all might go straight to heaven. From the Christian standpoint it is a

terrific venture to live, and to be constantly in jeopardy of falling a victim to the eternal punishments of hell. For agnostics and atheists life is something beautiful; it is only to be regretted that it is so short. For Christians life here below, compared with the eternal life, has little value. If one stupid moment of this life is capable—as it certainly often is—of bringing a man into danger of eternal damnation—there can be no resisting the notion of throwing life away somehow, like the eye or the ear, the hand or the foot, which has offended. For it is better that a man should enter the Kingdom of heaven with one eye, than . . .

We know, of course, that Christian precepts, in their marvellous human inconsequence, have not gone so far as this. Life was once more the stronger. Suicide was declared a grievous sin, and the possibility of going to hell was a thing one had to reckon with. It was not at all easy: the suicide certainly went to hell, but he who remained in life most probably went there. For even the righteous man sins seven times daily. . . . There are moments in which this empty, sad, black, or at best silver world, with its utter aimlessness, appears more beautiful than the alleged golden one, the terrible world of bygone centuries.

Unfortunately we are far from having finished with such notions. Human conceptions, human words, confused and indistinct human imaginations, have unhappily been transmuted by the *labor impius philosophorum* into hard, heavy stones, with which humanity is still burdened. . . .

We are at the end of our deliberations. Reverting to the metaphor of the lofty mountain adduced in the introduction, we might point to the dreadful hurricane which rages on mountain summits, and makes all life impossible there. Consequently one cannot remain for long on these cold heights. The mountain-top is for the thinker, by reason of the wide prospect, a fruitful region. But living beings cannot sustain for long the rare atmosphere of super-concepts and abstractions. I will not again paint this familiar picture. I would rather introduce once more the three world-pictures outlined at the beginning of this book and discussed in Chapter III. Let us

return to the natural, scientific, sensualistic world-picture, in which the data of sense are amended by observation and speculation, and to the purely philosophical view of the epistemological world-picture, with the consciousness that our knowledge is only appearance. The third world-picture, the highest form of knowledge, which proved to be fiction, we shall now leave unregarded. But even the second picture is of a negative character; it contains only limitations imposed by the human understanding of sensual perception; it offers no new knowledge. What we know of the external world is already offered to us by the first picture. But it does not contain the pure O, it presents an unconscious and not exactly to be defined synthesis of the observed O with the observant S. The sensualistic, and, of course, speculatively corrected world-picture is for us human beings the most instructive. It is practically realized by stages of reflection, by additions and modifications, yet it always retains its value. The second is the higher, but in its negation essentially unfruitful. Of the third picture, in this connexion, no more need be said.

In the sense of these first two world-pictures one might divide the thinkers who have concerned themselves with the question of the Ultimate, into four groups:

(*a*) Those who have altogether rejected the perceptions of our senses (the Upanishads, the Eleatics, Plato, Berkeley, Stirner, and the modern S-philosophers).

(*b*) Those who did not indeed repudiate the world-picture of our senses, but to whom it offers only an insignificant, contemptible shadow-image of reality, compared with which the true world-in-itself is exalted and immutable. Of these are Kant and his successors in the narrower sense, Schopenhauer, Driesch, and Dingler.

(*c*) For the third group of thinkers the world is present only *once*. We know, of course, only its appearance, but we have the possibility of criticism. Of these are the empirico-critics, Avenarius, and Mach, but also the more modern English and American realists: S. Alexander, Broad, and Laird, and also Dewey and Santayana.

(*d*) The plain sensualists (Hobbes, Locke, Holbach, Buchner)

and most of the naturalistic and scientific thinkers of more modern times.

The number of thinkers in all four groups could of course be multiplied *ad lib.* A slighter knowledge of natural science, and above all the under-valuation of the empirical sciences, leads the thinker to the group (*a*); their over-valuation to the group (*d*).

In this volume our endeavour has been to produce evidence that the retention of faith in the truth of our sensual perception, combined with the criticism of this knowledge, would offer the relatively best hypotheses of relative truth. At the same time we have endeavoured to bring the natural scientific knowledge of empirical science into harmony with philosophy. We proceeded from the hypothesis that it is not profitable to cultivate the individual sciences without bringing them into connexion with one another, and without offering a general philosophical theory as a basis for these individual sciences. In future there should appear no more such word-sequences as the title of Dingler's book *Der Zusammenbruch der Wissenschaft und der Primat der Philosophie* ("the Collapse of Science and the Primacy of Philosophy," Munich, 1929). The disastrous cleavage of higher human thought, which on the one hand begets anaemic, unworldly philosophical systems, without at the same time seeking the link with actual life and its necessities, and the vast stores of human knowledge which have been amassed in the individual sciences, must not persist, but must be replaced by a higher synthesis of the sciences of experience and speculative theory. There should be no only-philosophers and no only-scientific men. The knowledge of the former and the thought of the latter should mutually fructify and amplify each other.

It cannot be denied that only knowledge newly acquired on an empirical foundation can permanently extend and deepen a world-view, however theoretical this may be. Pure philosophical knowledge leads simply to negations: appearance is no thing-in-itself; we human beings have only appearance, only primary experience. Such and similar propositions cannot, however, be continually repeated afresh.

The philosophical kind of knowledge is higher but infertile. Progress comes only from the sciences, and it is the business of correct criticism so to classify and estimate scientific results that real and progressive development of the philosophical world-view can be expected therefrom. A Copernicus and a Darwin effected more changes in philosophical world-views than a hundred theoretical philosophers could do. The significance of a Hume and a Kant is founded on scepticism and criticism; hence only on negations.

Pure philosophical cognition must always remain very incomplete. There are experiences which can hardly be expressed in the epistemological mode, as, for example, the experience of a pluralism of subjects (the problem of the second person), or the experience that the totality of objects, and thus the external world, will continue to exist after the death of the perceiving subject. Such examples may be enumerated at length.

He who would reject scientific knowledge as incorrect merely for the reason that it is of a lower order, or is considered so, would betray a very perverted understanding. The recognition of empirico-criticism, as one may now for once technically describe our kind of world-view, is for us human beings relatively the most correct in its details. It can certainly make no headway in an upward direction and towards the "Ultimate," but at least it points out the way, and does not assert that it knows more than it really can know. We may console ourselves with the thought that *no alleged higher* form of knowledge advances to the Ultimate.

If, for example, we arrive at the conviction that death means an end not only of our empirical *ego*, but also of our epistemological S, or that the totality of the universe is not created after our likeness, and that we are not the aim and central point of the world, we do not consider these propositions as foolish because they proceed from different spheres of knowledge which in theory are usually carefully separated from one another; we consider them, on the contrary, as the practical human truth, since now there can be no "absolute truth." It must be granted that here there is only a question of plain and humble truths, but we are not such exalted and heavenly

beings that we can boast of a higher truth. The so-called higher truth has hitherto revealed itself only as deception and spurious science. We would rather attain definite results on earth, before soaring into the air and attaining none at all.

We should badly misconceive the difference between the higher and the lower knowledge if we were to profess the opinion that the lower knowledge is false, while we know nothing of the higher, and that we should therefore be somehow justified in transferring to its realm all that we desire but do not find substantiated by experience. In this fashion we could somehow legitimate all fairy-tales and fables, all mythologies and religions. That this simply would not do is obvious. The higher form of knowledge is negative. The "in-itself" and metaphysics remain in the gloomy Unknowable. All else is sheer ignorance or the conscious perversion of facts.(156)

I endeavour as far as I possibly can to force philosophy to follow scientific paths. I have considered it my plain ethical duty, so far as this was within my power, to contribute my mite towards this progress. But since I believe only in a silver world—and after all I am sorry that I have not chosen a less precious metal, and a more discreet adjective—the reader may draw the inference that I regard my work as merely a small step on the way to something better. On the way forwards, which may some day be transformed into a way backwards. I believe, however, that we to-day, in our petty circumstances, are yet striding forwards, and that we shall continue to do so for a long time yet, even if the momentary clouding of the scientific horizon should apparently give this assertion the lie. In this assertion I am still standing on a somewhat higher watch-tower: I would not have it that anyone could say of me that I have not seen the wood for the trees. I even believe that I may express the hope that in the relatively short time of our existence the critical world-view will meet with acceptance in wider circles. The symbol of this perception is the metaphor of the silver world.

Finally, we may permit ourselves to ask a few further questions:

Do the concepts of infinity and eternity correspond with reality, or are they only false inferences of our imperfect intellect? Is there merely an enormously large or an infinite space? Is there merely an enormously long or an eternal time? Is it only that our intellect is so constituted that it can perceive no end to space and time? Does an infinity transcending our consciousness correspond to the inner infinitude of the two concepts? I consider that an answer to this question is *impossible*. To-day many things seem to support the view that in the assumption of an infinity we are the victims of a subjective illusion. There are, nevertheless, important motives which seem to point to the existence of an infinity, even if in the present development of this problem they have become somewhat less apparent. However, while I doubt the possibility of a solution of this problem, I regard it as so eminently important that in the event of any sort of solution the whole *Weltanschauung* must at once be modified in one or the other direction. Without anticipating the final solution, this book has ranged itself, in its deliberations, rather on the side of belief in a spatial and temporal infinity, without, however, proclaiming this faith dogmatically, and without resorting to it for the higher world-pictures. In our first world-picture it seems, of course, as though we poor earthworms must be crushed by these two gigantic conceptions. The emerging doubt of the correctness of our perception in this respect is felt as a slight relief. But is this doubt justified?

In conclusion, the uniqueness of our *ego*-sentiment must be strongly emphasized as a very important precondition of every world-view. It is no accident that just on this little earth, in this or that country, in this or that year, my *ego* arose. The *ego* is our sole, supreme experience. It is and remains inexplicable to us; we cannot believe that we have already had it once and that we shall at some time have it again. And yet we must assume that its material precondition, atoms, forces, chemical laws, and the animation of certain combinations, must somehow always exist. To attempt to anticipate for such reasons an eternal recurrence of things would, in the view of natural science, be a foolhardy position, but the thought that

we somehow belong, with our sorry *ego*, to the temporal and spatial infinity, or the monstrous magnitude of things, that we are somehow anchored in this magnitude, is not to be rejected. It possesses a consoling value, be it ever so modest. But even this semblance of consolation can offer us a little solace in the black and cold ocean of death. . . .

Should we be metaphysicians? Should we reject metaphysics? Neither the one nor the other. There is no positive metaphysics that can be taken seriously, and if one is too much concerned with it one is easily misled into conceiving it positively, which, of course, cannot be conceded under any circumstances. The complete rejection of metaphysics and the higher philosophical aspects leads to naïve realism—realism at any cost—and to superficiality.

Highly as I esteem the method of natural science, yet it seems to me that a complete aversion from the higher world-picture may easily lead one superficially to accept materialism —which should be merely an abridgement, merely a method —as the end-result of all knowledge; and as honourable seekers after truth we ought not to be satisfied with this; we ought not to remain standing half-way to the goal. We *must* cast our glance into the dark night of the Unknowable; we must peer into the abysses of the great neutrals. We are pledged to ascend to the epistemological mountain-summit, and even though we make our way back to the human settlements lying in the valleys and lowlands, we shall have undergone a profound inner transformation. We shall know for certain that the universe does not consist merely of "particular numbers"; we shall not content ourselves—to quote a comparison of Jeans—with a rippling of the waves on the surface of the waters.(157) Any man who deserves to be taken seriously must have occupied himself from time to time with the profound problems of eternity and infinity. And with the dark realm which may lie behind both, with the supreme limit-concepts and their criticism. He must also have attempted at least for once in a way to gaze into the profound black abyss of the Ultimate.

We have already declared that this amounts to a glance into

the *grave*. Into the only place at which we really arrive for eternity and infinity. Speculations of such a kind not only lift us to a higher intellectual level, but fill us with boundless compassion for those in a similar plight, for suffering, living creatures like ourselves.

The *memento mori* is no entertaining image. Thick and impenetrable curtains and veils, narcotics and cordials of all kinds, are more agreeable, more economical. Nevertheless, we are worthier and more ethical for our glance into the grave, the glance into black metaphysics. And since we have no power to rise any higher, this at least makes it possible to conceive the existence of

A SILVER WORLD

## NOTES

154. On perfection as a spurious concept compare Mauthner, *Wörterbuch*, III, p. 372.

155. Compare Hor, *Carmina*, I, 7, 21 et seq.

156. One would hardly believe how many medieval prejudices we still trail along with us, with how many views apparently long disposed of we have still to contend. It is sad to think that anyone, in a scientific work, should in all seriousness reckon with the possibility that one day the sun would not rise because it was part of the Creator's plan that it should not be allowed to rise on that day. Thoughts and sophisms of this nature, which still have power to drag our still so youthful and fragile science down into barely surmounted atavisms, are greatly to be regretted in the interests of unprejudiced investigation. And of late years they have multiplied to such an extent that one may almost speak of a new outbreak of the magical world-view. It is even more regrettable that in a scientific work Bible passages should be quoted, since this makes it appear that the author must regard the Bible as a supernatural creation divinely inspired. In this connexion I might refer to countless passages in scientific works of the twentieth century. . . . We are still very little removed from the time when philosophy was regarded as the humble handmaid of theology. Not in this sense, of course, does Wightman quote the Bible—*Science and Monism* (London, 1934), p. 203.

157. Compare Jeans, III, p. 284, the last words of Chapter VII.

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