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RELIGION, PHILOSOPHY
AND PSYCHICAL RESEARCH

SELECTED ESSAYS

by

C. D. BROAD

Litt.D. (Cantab); F.B.A.
Fellow of Trinity College, Cambridge
KNIGHTBRIDGE Professor of Moral Philosophy in the
University of Cambridge



HARCOURT, BRACE & COMPANY, INC.
383, MADISON AVENUE, NEW YORK, 17

1953

B 1618 . B 75 R4



*Printed in Great Britain
by Latimer, Trend & Co. Ltd., Plymouth*

D 17051
B64
cop. D18

TO

ULF HELLSTEN

Ske din vilja, såsom i Skövde så ock i Hjo

'Things and actions are what they are, and the consequences of them will be what they will be; why, then, should we desire to be deceived?'—
BUTLER, *Sermon on the Character of Balaam*

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INTRODUCTION

IN the Introduction to the recently issued volume of selected essays, entitled *Ethics and the History of Philosophy*, I said that I hoped to be able to publish a further selection of papers covering the topics of Psychical Research, Religion, and Politics. The present volume is the fulfilment of that hope.

As before, I will begin by thanking those who have so kindly allowed me to reprint papers of which they own the copyright. For permission to republish the essays entitled *The Relevance of Psychical Research to Philosophy*, *Mr. Dunne's Theory of Time*, *The Present Relations of Science and Religion*, and *Some Common Fallacies in Political Thinking*, I have to thank the Editor of *Philosophy*. The papers entitled *Henry Sidgwick and Psychical Research*, *Immanuel Kant and Psychical Research*, and *Normal Cognition, Clairvoyance, and Telepathy*, were contributed to the *Proceedings* of the S.P.R., and I am grateful to the Council of that Society for allowing me to reprint them. To the Editor of the *Hibbert Journal* I am indebted for permission to use the articles entitled *Validity of Belief in a Personal God* and *Bishop Butler as a Theologian*. The essay entitled *Arguments for the Existence of God* appeared originally in the *Journal of Theological Studies*. It is now reprinted by kind permission of the Delegates of the Clarendon Press, to whom and to the Editor I wish to express my thanks. The essay entitled *War Thoughts in Peace Time* was originally delivered as the Earl Grey Lecture at King's College, Newcastle-upon-Tyne, and afterwards issued as a pamphlet. It has long been out of print. I gratefully acknowledge the kind permission of the College to republish it here.

Beside *War Thoughts in Peace Time* several of the other essays here reprinted were originally delivered as lectures on special occasions. The paper on Normal Cognition, Clairvoyance, and Telepathy is an expanded version of the address which I gave to the S.P.R. on taking office as its President for the year 1935-6. That on Henry Sidgwick and Psychical Research was delivered as a lecture to the S.P.R. in 1938 on the occasion of the centenary of Sidgwick's birth. It slightly overlaps, but largely supplements,

he paper on Henry Sidgwick in the preceding volume of my selected essays.

Three of the four papers in the Section entitled *Religion* were initially given as lectures. That on Bishop Butler as a Theologian was a public lecture held in Bristol early in the 1920's when I was Professor there. The paper on the Validity of Belief in a Personal God was an address given by request to a meeting of the Student Christian Movement in Cambridge. It was published in 1925. The article on the Present Relations of Science and Religion is an expanded version of a lecture given in 1939 to what was then called the British Institute of Philosophy.

I am somewhat diffident of republishing these papers on religious topics. I have no religious beliefs and, so far as I can judge, I am completely devoid of anything that could fairly be called religious or mystical experience. I fully realize that this is a serious disability. Some people would say that for me to write on these matters is as if a colour-blind man should pose as an art critic or a tone-deaf one as an expert on music. This, however, seems to me to be an objection based partly on a false analogy and partly on a failure to recognize the limited nature of my undertaking. I am concerned simply with the appraisal of *arguments*, which are held by those who use them to be either demonstrative or probable. For that limited task I have the necessary training and aptitude, and I do not see why my judgment should not be as good as another's. I would add that, so far as I am aware, I have no *anti*-religious emotions or interests. For a contemporary Englishman to excite himself about the dangers of clericalism is, to my mind, as if a man in the jaws of a lion were to make a fuss about a flea-bite.

All the papers are reprinted unchanged save for very few and very slight verbal alterations. In the case of two of them, viz. *War Thoughts in Peace Time* and *Immanuel Kant and Psychological Research*, I have thought it desirable to append some supplementary remarks. The former lecture was delivered in 1931, some two years before the appointment of Hitler as German Chancellor. At that time there seemed to be no immediate prospect of another world-war. Since then the second has taken place, and now the odds would seem to be somewhat in favour of the occurrence of a third in the fairly near future. It is therefore of interest to myself, and it may possibly be of interest to some of my readers, to review very briefly the main points in that lecture in the light of after events and present circumstances. The paper on Immanuel Kant and Psychological Research appeared in the *Proceedings* of the S.P.R. in 1950. It led to correspondence which brought to my notice certain sources of information about Kant and about Swedenborg of which I was unaware at the time of writing. I have also had the

opportunity of making certain inquiries in Sweden this summer during my annual visit to what I can only call my second fatherland. Nothing that I have since learned necessitates any material alteration in what I had written, but it seemed worth while to embody the additional information, positive and negative, in a brief supplementary note.

C. D. BROAD

*Trinity College
Cambridge
December 1951*

SECTION ONE

PSYCHICAL RESEARCH

THE RELEVANCE OF PSYCHICAL RESEARCH TO PHILOSOPHY

I WILL begin this paper by stating in rough outline what I consider to be the relevance of psychical research to philosophy, and I shall devote the rest of it to developing this preliminary statement in detail.

In my opinion psychical research is highly relevant to philosophy for the following reasons. There are certain limiting principles which we unhesitatingly take for granted as the framework within which all our practical activities and our scientific theories are confined. Some of these seem to be self-evident. Others are so overwhelmingly supported by all the empirical facts which fall within the range of ordinary experience and the scientific elaborations of it (including under this heading orthodox psychology) that it hardly enters our heads to question them. Let us call these *Basic Limiting Principles*. Now psychical research is concerned with alleged events which seem *prima facie* to conflict with one or more of these principles. Let us call any event which seems *prima facie* to do this an *Ostensibly Paranormal Event*.

A psychical researcher has to raise the following questions about any ostensibly paranormal event which he investigates. (1) Did it really happen? Has it been accurately observed and correctly described? (2) Supposing that it really did happen and has been accurately observed and correctly described, does it really conflict with any of the basic limiting principles? Can it not fairly be regarded merely as a strange coincidence, not outside the bounds of probability? Failing that, can it not be explained by reference to already known agents and laws? Failing that, can it not be explained by postulating agents or laws or both, which have not hitherto been recognized, but which fall within the framework of accepted basic limiting principles?

Now it might well have happened that every alleged ostensibly paranormal event which had been carefully investigated by a competent psychical researcher was found either not to have occurred at all, or to have been misdescribed in important respects, or to be

a chance-coincidence not beyond the bounds of probability, or to be susceptible of an actual or hypothetical explanation within the framework of the basic limiting principles. If that had been so, philosophy could afford to ignore psychical research; for it is no part of its duty to imitate the White Knight by carrying a mouse-trap when it goes out riding, on the offchance that there might be mice in the saddle. But that is not how things have in fact turned out. It will be enough at present to refer to a single instance, viz., Dr. Soal's experiments on card-guessing with Mr. Shackleton as subject, of which I gave a full account in *Philosophy* in 1944. There can be no doubt that the events described happened and were correctly reported; that the odds against chance-coincidence piled up to billions to one; and that the nature of the events, which involved both telepathy and precognition, conflicts with one or more of the basic limiting principles.

Granted that psychical research has established the occurrence of events which conflict with one or more of the basic limiting principles, one might still ask: How does this concern philosophy? Well, I think that there are some definitions of 'philosophy', according to which it would not be concerned with these or any other newly discovered facts, no matter how startling. Suppose that philosophy consists in accepting without question, and then attempting to analyse, the beliefs which are common to contemporary plain men in Europe and North America, i.e., roughly the beliefs which such persons acquired uncritically in their nurseries and have since found no occasion to doubt. Then, perhaps, the only relevance of psychical research to philosophy would be to show that philosophy is an even more trivial academic exercise than plain men had been inclined to suspect. But, if we can judge of what philosophy *is* by what great philosophers have *done* in the past, its business is by no means confined to accepting without question, and trying to analyse, the beliefs held in common by contemporary European and North American plain men. Judged by that criterion, philosophy involves at least two other closely connected activities, which I call *Synopsis* and *Synthesis*. Synopsis is the deliberate viewing together of aspects of human experience which, for one reason or another, are generally kept apart by the plain man and even by the professional scientist or scholar. The object of synopsis is to try to find out how these various aspects are inter-related. Synthesis is the attempt to supply a coherent set of concepts and principles which shall cover satisfactorily all the regions of fact which have been viewed synoptically.

Now what I have called the basic limiting principles are plainly of great philosophical importance in connection with synopsis and synthesis. These principles do cover very satisfactorily an enormous

range of well-established facts of the most varied kinds. We are quite naturally inclined to think that they must be all-embracing; we are correspondingly loth to accept any alleged fact which seems to conflict with them; and, if we are forced to accept it, we strive desperately to house it within the accepted framework. But just in proportion to the philosophic importance of the basic limiting principles is the philosophic importance of any well-established exception to them. The speculative philosopher who is honest and competent will want to widen his synopsis so as to include these facts; and he will want to revise his fundamental concepts and basic limiting principles in such a way as to include the old and the new facts in a single coherent system.

The Basic Limiting Principles

I will now state some of the most important of the basic limiting principles which, apart from the findings of psychical research, are commonly accepted either as self-evident or as established by overwhelming and uniformly favourable empirical evidence. These fall into four main divisions, and in some of the divisions there are several principles.

(1) *General Principles of Causation.* (1.1) It is self-evidently impossible that an event should begin to have any effects before it has happened.

(1.2) It is impossible that an event which ends at a certain date should contribute to cause an event which begins at a later date unless the period between the two dates is occupied in one or other of the following ways: (i) The earlier event initiates a process of change, which continues throughout the period and at the end of it contributes to initiate the later event. Or (ii) the earlier event initiates some kind of structural modification which persists throughout the period. This begins to co-operate at the end of the period with some change which is then taking place, and together they cause the later event.

(1.3) It is impossible that an event, happening at a certain date and place, should produce an effect at a remote place unless a finite period elapses between the two events, and unless that period is occupied by a causal chain of events occurring successively at a series of points forming a continuous path between the two places.

(2) *Limitations on the Action of Mind on Matter.* It is impossible for an event in a person's mind to produce *directly* any change in the material world except certain changes in his own brain. It is true that it seems to him that many of his volitions produce directly certain movements in his fingers, feet, throat, tongue, etc. These are what he wills, and he knows nothing about the changes in his

brain. Nevertheless, it is these brain-changes which are the immediate consequences of his volitions; and the willed movements of his fingers, etc., follow, if they do so, only as rather remote causal descendants.

(3) *Dependence of Mind on Brain.* A necessary, even if not a sufficient, immediate condition of any mental event is an event in the brain of a living body. Each different mental event is immediately conditioned by a different brain-event. Qualitatively dissimilar mental events are immediately conditioned by qualitatively dissimilar brain-events, and qualitatively similar mental events are immediately conditioned by qualitatively similar brain-events. Mental events which are so inter-connected as to be experiences of the same person are immediately conditioned by brain-events which happen in the same brain. If two mental events are experiences of different persons, they are *in general* immediately conditioned by brain-events which occur in different brains. This is not, however, a rule without exceptions. In the first place, there are occasional but quite common experiences, occurring in sleep or delirium, whose immediate conditions are events in a certain brain, but which are so loosely connected with each other or with the stream of normal waking experiences conditioned by events in that brain that they scarcely belong to any recognizable person. Secondly, there are cases of multiple personality, described and treated by psychiatrists. Here the experiences which are immediately conditioned by events in a single brain seem to fall into two or more sets, each of which constitutes the experiences of a different person. Such different persons are, however, more closely interconnected in certain ways than two persons whose respective experiences are immediately conditioned by events in different brains.

(4) *Limitations on Ways of acquiring Knowledge.* (4.1) It is impossible for a person to perceive a physical event or a material thing except by means of sensations which that event or thing produces in his mind. The object perceived is not the *immediate* cause of the sensations by which a person perceives it. The immediate cause of these is always a certain event in the percipient's brain; and the perceived object is (or is the seat of) a rather remote causal ancestor of this brain-event. The intermediate links in the causal chain are, first, a series of events in the space between the perceived object and the percipient's body; then an event in a receptor organ, such as his eye or ear; and then a series of events in the nerve connecting this receptor organ to his brain. When this causal chain is completed, and a sensory experience arises in the percipient's mind, that experience is not a state of acquaintance with the perceived external object, either as it was at the moment

when it initiated this sequence of events or as it now is. The qualitative and relational character of the sensation is wholly determined by the event in the brain which is its immediate condition; and the character of the latter is in part dependent on the nature and state of the afferent nerve, of the receptor organ, and of the medium between the receptor and the perceived object.

(4.2) It is impossible for *A* to know what experiences *B* is having or has had except in one or other of the following ways. (i) By hearing and understanding sentences, descriptive of that experience, uttered by *B*, or by reading and understanding such sentences, written by *B*, or reproductions or translations of them. (I include under these headings messages in Morse or any other artificial language which is understood by *A*.) (ii) By hearing and interpreting cries which *B* makes, or seeing and interpreting his gestures, facial expressions, etc. (iii) By seeing, and making conscious or unconscious inferences from, persistent material records, such as tools, pottery, pictures, etc., which *B* has made or used in the past. (I include under this head seeing copies or transcriptions, etc., of such objects.)

Similar remarks apply, *mutatis mutandis*, to the conditions under which *A* can acquire from *B* knowledge of facts which *B* knows or acquaintance with propositions which *B* contemplates. Suppose that *B* knows a certain fact or is contemplating a certain proposition. Then the only way in which *A* can acquire from *B* knowledge of that fact or acquaintance with that proposition is by *B* stating it in sentences or other symbolic expressions which *A* can understand, and by *A* perceiving those expressions themselves, or reproductions or translations of them, and interpreting them.

(4.3) It is impossible for a person to forecast, except by chance, that an event of such and such a kind will happen at such and such a place and time except under one or other of the following conditions. (i) By making an inference from data supplied to him by his present sensations, introspections, or memories, together with his knowledge of certain rules of sequence which have hitherto prevailed in nature. (ii) By accepting from others, whom he trusts, either such data or such rules or both, and then making his own inferences; or by accepting from others the inferences which they have made from data which they claim to have had and regularities which they claim to have verified. (iii) By non-inferential expectations, based on associations which have been formed by certain repeated sequences in his past experience and which are now stimulated by some present experience.

It should be noted here that, when the event to be forecast by a person is a future experience or action of himself or of another person, we have a rather special case, which is worth particular

mention, although it falls under one or other of the above headings. *A* may be able to forecast that he himself will have a certain experience or do a certain action, because he knows introspectively that he has formed a certain intention. He may be able to forecast that *B* will have a certain experience or do a certain action, because he has reason to believe, either from *B*'s explicit statements or from other signs, that *B* has formed a certain intention.

(4.4) It is impossible for a person to know or have reason to believe that an event of such and such a kind happened at such and such a place and time in the past except under one or another of the following conditions. (i) That the event was an experience which he himself had during the lifetime of his present body; that this left a trace in him which has lasted until now; and that this trace can be stimulated so as to give rise in him to a memory of that past experience. (ii) That the event was one which he witnessed during the lifetime of his present body; that the experience of witnessing it left a trace in him which has lasted till now; and that he now remembers the event witnessed, even though he may not be able to remember the experience of witnessing it. (iii) That the event was experienced or witnessed by someone else, who now remembers it and tells this person about it. (iv) That the event was experienced or witnessed by someone (whether this person himself or another), who made a record of it either at the time or afterwards from memory; that this record or copies or translations of it have survived; and that it is now perceptible by and intelligible to this person. (These four methods may be summarized under the heads of present memory, or testimony based on present memory or on records of past perceptions or memories.) (v) Explicit or implicit inference, either made by the person himself or made by others and accepted by him on their authority, from data supplied by present sense-perception, introspection, or memory, together with knowledge of certain laws of nature.

I do not assert that these nine instances of basic limiting principle are exhaustive, or that they are all logically independent of each other. But I think that they will suffice as examples of important restrictive principles of very wide range, which are commonly accepted to-day by educated plain men and by scientists in Europe and America.

General Remarks on Psychical Research

I turn now to psychical research. Before going into detail I will make some general remarks about its data, methods and affiliations.

(1) The subject may be, and has been, pursued in two ways.

(i) As a critical investigation of accounts of events which, if they happened at all, did so spontaneously under conditions which had not been deliberately pre-arranged and cannot be repeated at will. (ii) As an experimental study, in which the investigator raises a definite question and pre-arranges the conditions so that the question will be answered in this, that, or the other way according as this, that, or the other observable event happens under the conditions. An extreme instance of the former is provided by the investigation of stories of the following kind. *A* asserts that he has had an hallucinatory waking experience of a very specific and uncommon kind, and that this experience either imitated in detail or unmistakably symbolized a certain crisis in the life of a certain other person *B*, e.g. death or a serious accident or sudden illness, which happened at roughly the same time. *A* claims that *B* was many miles away at the time, that he had no normal reason to expect that such an event would happen to *B*, and that he received no information of the event by normal means until afterwards. An extreme instance of the latter is provided by the card-guessing experiments of Dr. Soal in England or of Professor Rhine and his colleagues in U.S.A.

Intermediate between these two extremes would be any carefully planned and executed set of sittings with a trance-medium, such as the late Mr. Saltmarsh held with Mrs. Warren Elliott and described in Vol. xxxix of the S.P.R. *Proceedings*. In such cases the procedure is experimental at least in the following respects. A note-taker takes down everything that is said by sitter or medium, so that there is a permanent record from which an independent judge can estimate to a considerable extent whether the medium was 'fishing' and whether the sitter was inadvertently giving hints. Various techniques are used in order to try to estimate objectively whether the statements of the medium which are alleged to concern a certain dead person do in fact fit the peculiarities of that person and the circumstances of his life to a significantly closer degree than might be expected from mere chance coincidence. On the other hand, the procedure is non-experimental in so far as the sitter cannot ensure that the utterances of the entranced medium shall refer to pre-arranged topics or answer pre-arranged questions. He must be prepared to hear and to have recorded an immense amount of apparently irrelevant twaddle, in the hope that something importantly relevant to his investigation may be embedded in it.

(2) It seems to me that both methods are important, and that they stand in the following relations to each other. The sporadic cases, if genuine and really paranormal, are much richer in content and more interesting psychologically than the results of ex-

periment with cards or drawings. In comparison with the latter they are as thunderstorms to the mild electrical effects of rubbing a bit of sealing-wax with a silk handkerchief. But, taken in isolation from the experimentally established results, they suffer from the following defect. Any one of them separately might perhaps be regarded as an extraordinary chance coincidence; though I do not myself think that this would be a reasonable view to take of them collectively, even if they were not supported by experimental evidence, when one considers the number and variety of such cases which have stood up to critical investigation. But, however that may be, there is no means of estimating *just how* unlikely it is that any one such case, or the whole collection of them, should be mere chance coincidence.

Now, if there were no independent experimental evidence for telepathy, clairvoyance, precognition, etc., it would always be possible to take the following attitude towards the sporadic cases. 'Certainly,' it might be said, 'the evidence seems water-tight, and the unlikelihood of mere chance coincidence seems enormous, even though one cannot assign a numerical measure to it. But, if the reported events were genuine, they would involve telepathy or clairvoyance or precognition. The antecedent improbability of these is practically infinite, whilst there is always a possibility of mistake or fraud even in the best attested and most carefully checked reports of any complex incident which cannot be repeated at will. And there is no coincidence so detailed and improbable that it may not happen occasionally in the course of history. Therefore, it is more reasonable to hold that even the best attested sporadic cases were either misreported or were extraordinary coincidences than to suppose that they happened as reported and that there was a causal connection between *A*'s experience and the nearly contemporary event in *B*'s life to which it seemed to correspond.'

Now, whether this attitude would or would not be reasonable in the absence of experimental cases, it is not reasonable when the latter are taken into account and the sporadic cases are considered in relation to them. In card-guessing experiments, e.g. we can assign a numerical value to the most probable number of correct guesses in a given number of trials on the supposition that chance coincidence is the only factor involved. We can also assign a numerical value to the probability that, if chance coincidence only were involved, the actual number of correct guesses would exceed the most probable number by more than a given amount. We can then go on repeating the experiments, under precisely similar conditions, hundreds or thousands of times, with independent witnesses, elaborate checks on the records, and so on.

Now Dr. Soal, Professor Rhine and his colleagues, and Mr. Tyrrell, working quite independently of each other, have found that certain subjects can cognize correctly, with a frequency so greatly above chance-expectation that the odds against such an excess being fortuitous are billions to one, what another person *has been and is no longer perceiving*, what he *is contemporaneously perceiving*, and what he *will not begin to perceive until a few seconds later*. This happens under conditions where there is no possibility of relevant information being conveyed to the subject by normal sensory means, and where there is no possibility of his consciously or unconsciously inferring the future event from any data available to him at the time. It follows that the antecedent improbability of paranormal cognition, whether post-cognitive, simultaneous, or pre-cognitive, cannot reasonably be treated as practically infinite in the sporadic cases. These paranormal kinds of cognition must be reckoned with as experimentally verified possibilities, and, in view of this, it seems reasonable to accept and to build upon the best attested sporadic cases.

(3) The findings of psychical research should not be taken in complete isolation. It is useful to consider many of them in connexion with certain admitted facts which fall within the range of orthodox abnormal psychology and psychiatry. The latter facts form the best bridge between ordinary common sense and natural science (including normal psychology), on the one hand, and psychical research, on the other. As I have already mentioned in connexion with Principle 3, the occurrence of dreams and delirium and the cases of multiple personality would suffice, even in the absence of all paranormal phenomena, to qualify the dogma that, if two mental events are experiences of different persons, they are always immediately conditioned by events in different brains. We can now go further than this. There are obvious and important analogies between the phenomena of trance-mediumship and those of alternating personality unaccompanied by alleged paranormal phenomena. Again, the fact of dreaming, and the still more startling facts of experimentally induced hypnotic hallucinations, show that each of us has within himself the power to produce, in response to suggestions from within or without, a more or less coherent quasi-sensory presentation of ostensible things and persons, which may easily be taken for a scene from the ordinary world of normal waking life. Cases of veridical hallucination corresponding to remote contemporary events, instances of haunted rooms, and so on, are slightly less incredible when regarded as due to this normal power, abnormally stimulated on rare occasions by a kind of hypnotic suggestion acting telepathically. It is certainly wise to press this kind of explanation as far as it will go, though one must

be prepared for the possibility that it will not cover all the cases which we have to accept as genuine.

(4) If paranormal cognition and paranormal causation are facts, then it is quite likely that they are not confined to those very rare occasions on which they either manifest themselves sporadically in a spectacular way or to those very special conditions in which their presence can be experimentally established. They may well be continually operating in the background of our normal lives. Our understandings of, and our misunderstandings with, our fellow-men; our general emotional mood on certain occasions; the ideas which suddenly arise in our minds without any obvious introspectable cause; our unaccountable immediate emotional reactions towards certain persons; our sudden decisions where the introspectable motives seem equally balanced; and so on; all these may be in part determined by paranormal cognition and paranormal causal influences.

In this connexion it seems to me that the following physical analogy is illuminating. Human beings have no special sensations in presence of magnetic fields. Had it not been for the two very contingent facts that there are loadstones, and that the one element (iron) which is strongly susceptible to magnetic influence is fairly common on earth, the existence of magnetism might have remained unsuspected to this day. Even so, it was regarded as a kind of mysterious anomaly until its connexion with electricity was discovered and we gained the power to produce strong magnetic fields at will. Yet, all this while, magnetic fields had existed, and had been producing effects, whenever and wherever electric currents were passing. Is it not possible that natural mediums might be comparable to loadstones; that paranormal influences are as pervasive as magnetism; and that we fail to recognize this only because our knowledge and control of them are at about the same level as were men's knowledge and control of magnetism when Gilbert wrote his treatise on the magnet?

Established Results of Psychical Research

We can now consider in detail some well-established results of psychical research, which seem *prima facie* to conflict with one or more of our basic limiting principles.

I will begin with paranormal cognition. As I have said, the existence of this has been abundantly verified experimentally, and this fact makes it reasonable to accept the best attested and most carefully investigated of the sporadic cases as genuine instances of it. The following general remarks seem to be worth making about it.

(1) In much of the experimental work the word 'cognition' must

be interpreted behaviouristically, at least as regards the subject's introspectable mental processes. In Dr. Soal's experiments, e.g. the agent acts as if he often knows what card has been, or is now being, or very soon will be, looked at by the agent in an adjoining room. He does so in the following sense. He already knows that each of the cards bears a picture of one or other of a certain set of five animals. Whenever he receives a signal to inform him that the agent has just turned up a card he immediately writes down the initial letter of the name of one of these five animals. It is found that the letter thus written agrees with the name of the animal on the card which *will next* be turned up by the agent so often that the odds against such an excess of hits being a mere matter of chance are about 10^{35} to 1. Now the subject says that he writes down the initial letter 'almost automatically' and that he seldom gets a mental image of the animal depicted. Again, he is not consciously aiming at guessing the nature of the card which *will next* be turned up. In the earlier experiments at least he was aiming at the card which he knew that the agent was *then* looking at. Lastly, a whole series of 25 cards are turned up in fairly rapid succession, the average interval being about 2.5 seconds. The behaviouristic character of the whole process is even more marked in Mr. Tyrrell's experiments. If there is genuine cognition, it takes place at some level which is not introspectable by the subject.

(2) A most interesting fact, which has been noted by several experimenters, is the occurrence of *significantly negative* results, i.e. scores which are so much *below* chance-expectation that the odds against getting such poor results merely by chance are enormous. In order consistently to score below chance-expectation the subject must presumably know at some level of his consciousness what the target card is, and must for some reason be impelled to write down some *other alternative*.

(3) It has been common for writers and experimenters in psychical research to subdivide paranormal cognition into telepathy, clairvoyance, precognition, etc. It should be noted, however, that the establishment of the occurrence of precognition makes it difficult in the case of many successful experiments to classify the results with confidence under any one of these heads. They are evidence for paranormal cognition of *some* kind, but it is uncertain of *which* kind.

I will now go a little further into this matter. We must allow for the following alternatives, which do not necessarily exclude each other. A causal condition of *A*'s present paranormal cognition of *x* might be of any of the following kinds. (i) His own future normal cognition of *x*. This may be called a *precognitive autoscopic* condition. (ii) Another person's past, contemporary, or future normal cog-

dition of x . This may be called a *telepathic* condition, and, according to the temporal circumstances, it will be called *post-cognitive*, *simultaneous*, or *precognitive*.

Now in any actual case of paranormal cognition we can raise the question, with regard to each of these conditions or any combination of them, whether it was necessary and whether it was sufficient. It cannot have been necessary if the instance occurred in its absence. It cannot be *known* to have been sufficient, though it may in fact have been so, if others of these conditions were fulfilled in addition to it. If we could verify the occurrence of a paranormal cognition in a case where all these conditions were known to be absent, we might describe it as an instance of *pure clairvoyance*, which might be either post-cognitive, simultaneous, or precognitive. It should be noted that the word 'clairvoyance', as I have just defined it, is a negative term. It denotes merely the occurrence of paranormal cognition in the absence of the autoscopic and the telepathic conditions. It is plainly difficult to imagine a case, in regard to which one could feel sure that it was purely clairvoyant. In order to be sure that A 's ostensible cognition of x was not conditioned either autoscopically or telepathically we should have to know that neither A himself nor anyone else would ever come to cognize x normally and that no one else either had cognized or was cognizing x normally at the time when A 's experience occurred. It is plain that all these negative conditions are seldom fulfilled. And, if they were, it is hard to see how A himself or anyone else could ascertain whether A 's ostensible cognition of x was veridical or delusive.

It does not follow that there are no cases of clairvoyance. For one or other of the autoscopic or telepathic conditions might be present in a particular case of paranormal cognition, but might either be not operating at all or be merely supplementing clairvoyance. Nor does it follow that there might not be cases in which an explanation in terms of autoscopia or telepathy, though possible, would be so far-fetched that it might be more plausible to describe them as instances of clairvoyance.

In Soal's experiments the autoscopic condition was absent; for the subject was not afterwards informed of the actual cards which had been turned up, and so could not have been autoscopically precognizing his own future state of normal information. Again, Soal interspersed among the normal runs of guesses, in which the agent took up the card and looked at it, other runs in which the agent merely touched the back of the card without looking at it. These variations were introduced sometimes with and sometimes without telling the subject. Now, in the interspersed runs the number of successful guesses sank to the level of chance-expectation,

whilst in the normal runs, among which they were interspersed, it was very significantly above chance-expectation. So it would seem that, with this subject and these agents at any rate, the telepathic condition (in the precognitive form) is necessary to success.

In Mr. Tyrrell's experiments, however (S.P.R. *Proceedings*, Vol. XLIV), the subject scored very significantly above chance-expectation under conditions where precognitive autoscopy and every kind of telepathy seem to be excluded. These experiments were of a very different nature and with a different subject. Here the agent would press one or other of five keys connected with small lamps in five light-tight boxes. The subject had to open the lid of the box in which she believed that the lamp had been lighted. Successes and failures were scored mechanically on a moving band of paper. Tyrrell introduced a commutator between the keys and the lamps. The effect of this was that the same key would light different lamps on different occasions, and that the agent would never know which lamp he was lighting when he pressed any particular key. Moreover, the automatic recorder merely marked success or failure; it did not show *which box* was responsible for any particular success. So it would not help the subject if she were precognitively aware either of her own or of the experimenter's subsequent normal perception of the record. It could seem, therefore, that there is good evidence for paranormal cognition under purely clairvoyant conditions. Good evidence under these conditions is also claimed by Professor Rhine and his colleagues.

The Established Results and the Basic Limiting Principles

We are now in a position to confront our nine basic limiting principles with the results definitely established by experimental psychical research.

(1) Any paranormal cognition obtained under precognitive conditions, whether autoscopic or telepathic, seems *prima facie* to conflict with Principle 1.1. For the occurrence of the cognition seems to be in part determined by an event which will not happen until *after* it has occurred: e.g. in Soal's experiments the subject's act of writing down the initial letter of the name of a certain animal seems in many cases to be in part determined by the fact that the agent *will* a few seconds later be looking at a card on which that animal is depicted.

It also conflicts with Principle 4.3. For we should not count the forecasting of an event as an instance of *paranormal* cognition, unless we had convinced ourselves that the subject's success could not be accounted for either by his own inferences, or by his knowledge of inferences made by others, or by non-inferential expectations

based on associations formed in his mind by repeated experiences of sequence in the past. Now in the case of such experiments as Dr. Soal's and Professor Rhine's all these kinds of explanation are ruled out by the design of the experiment. And in some of the best cases of sporadic precognition it seems practically certain that no such explanation can be given.

It seems to me fairly plain that the establishment of paranormal precognition requires a radical change in our conception of time, and probably a correlated change in our conception of causation. I do not believe that the modifications introduced into the notion of physical time and space by the Theory of Relativity are here relevant, except in the very general sense that they help to free our minds from inherited prejudices and to make us more ready to contemplate startling possibilities in this department. Suppose, e.g. that a person has an autoscopic paranormal precognition of some experience which he will have some time later. I do not see that anything that the Theory of Relativity tells us about the placing and dating of physical events by means of measuring-rods and clocks regulated by light-signals can serve directly to make such a pact intelligible.

(2) Paranormal cognition which takes place under conditions which are telepathic but not precognitive does not conflict with Principles 1.1 and 4.3. But it does seem *prima facie* to conflict with Principle 4.2, and also with Principles 2, 1.3 and 3.

As regards Principle 4.2, we should not count *A*'s knowledge of a contemporary or past experience of *B*'s as paranormal, unless we had convinced ourselves that *A* had not acquired it by any of the normal means enumerated in that Principle. The same remarks apply *mutatis mutandis* to *A*'s acquiring from *B* knowledge of a fact known to the latter, or to *A*'s becoming aware of a proposition which *B* is contemplating. Now, in the experimental cases of simultaneous or post-cognitive telepathy all possibilities of normal communication are carefully excluded by the nature of the experimental arrangements. And in the best of the sporadic cases there seems to be no reasonable doubt that they were in fact excluded. In many well attested and carefully investigated cases the two persons concerned were hundreds of miles apart, and out of reach of telephones and similar means of long-distance communication, at the time when the one had an experience which corresponded to an outstanding and roughly contemporary experience in the other.

If non-precognitive telepathy is to be consistent with Principle 3, we must suppose that an immediate necessary condition of *A*'s telepathic cognition of *B*'s experience is a certain event in *A*'s brain. If it is to be consistent with Principle 2, we cannot suppose

that this event in *A*'s brain is produced *directly* by the experience of *B* which *A* telepathically cognizes. For Principle 2 asserts that the only change in the material world which an event in a person's mind can *directly* produce is a change in that person's own brain. If, further, it is to be consistent with Principle 1.3, the event in *B*'s brain, which is the immediate consequence in the material world of his experience, cannot *directly* cause the event in *A*'s brain which is the immediate necessary condition of *A*'s telepathic cognition of *B*'s experience. For there is a spatial gap between these two brain-events; and Principle 1.3 asserts that a finite period must elapse and that this must be occupied by a causal chain of events occurring successively at a series of points forming a continuous path between the two events.

So, if non-precognitive telepathy is to be reconciled with Principles 3, 2 and 1.3 taken together, it must be thought of as taking place in the following way. *B*'s experience has as its immediate concomitant or consequence a certain event in *B*'s brain. This initiates some kind of transmissive process which, after an interval of time, crosses the gap between *B*'s body and *A*'s body. There it gives rise to a certain change in *A*'s brain, and this is an immediate necessary condition of *A*'s telepathic cognition of *B*'s experience. I suspect that many people think vaguely of non-precognitive telepathy as a process somewhat analogous to the broadcasting of sounds or pictures. And I suspect that familiarity with the *existence* of wireless broadcasting, together with ignorance of the *nature* of the processes involved in it, has led many of our contemporaries, for completely irrelevant and invalid reasons, to accept the possibility of telepathy far more readily than their grandparents would have done, and to ignore the revolutionary consequences of the admission.

There is nothing in the known facts to lend any colour to this picture of the process underlying them. There is nothing to suggest that there is always an interval between the occurrence of an outstanding experience in *B* and the occurrence of a paranormal cognition of it in *A*, even when *B*'s and *A*'s bodies are very widely separated. When there is an interval there is nothing to suggest that it is correlated in any regular way with the distance between the two person's bodies at the time. This in itself would cast doubt on the hypothesis that, in all such cases, the interval is occupied by a causal chain of events occurring successively at a series of points forming a continuous path between the two places. Moreover, the frequent conjunction in experimental work of precognitive with non-precognitive telepathy, under very similar conditions, makes it hard to believe that the processes involved in the two are fundamentally different. But it is plain that the picture of a causal

chain of successive events from an event in *B*'s brain through the intervening space to an event in *A*'s brain cannot represent what happens in *precognitive* telepathy. Then, again, there is no independent evidence for such an intermediating causal chain of events. Lastly, there is no evidence for holding that an experience of *B*'s is more likely to be cognized telepathetically by *A* if he is in *B*'s neighbourhood at the time than if he is far away; or that the telepathic cognition, if it happens, is generally more vivid or detailed or correct in the former case than in the latter.

I do not consider that any of these objections singly, or all of them together, would conclusively disprove the suggestion that non-precognitive telepathy is compatible with Principles 3, 2 and 1.3. The suggested account of the process is least unpalatable when *B*'s original experience takes the form of a visual or auditory perception or image, and *A*'s corresponding experience takes the form of a visual or auditory image or hallucinatory quasi-perception resembling *B*'s in considerable detail. But by no means all cases of non-precognitive telepathy take this simple form.

I can imagine cases, though I do not know whether there are any well-established instances of them, which would be almost impossible to reconcile with the three Principles in question. Suppose, e.g. that *B*, who understands Sanskrit, reads attentively a passage in that tongue enunciating some abstract and characteristic metaphysical proposition. Suppose that at about the same time his friend *A*, in a distant place, not knowing a word of Sanskrit, is moved to write down in English a passage which plainly corresponds in meaning. Then I do not see how the physical transmission theory could be stretched to cover the case.

(3) If there be paranormal cognition under purely clairvoyant conditions, it would seem to constitute an exception to Principle 4.1. For it would seem to be analogous to normal perception of a physical thing or event, in so far as it is not conditioned by the subject's own future normal knowledge of that object, or by any other person's normal knowledge of it, whether past, contemporary, or future. And yet, so far as one can see, it is quite unlike ordinary sense-perception. For it does not take place by means of a sensation, due to the stimulation of a receptor organ by a physical process emanating from the perceived object and the subsequent transmission of a nervous impulse from the stimulated receptor to the brain.

To sum up about the implications of the various kinds of paranormal cognition. It seems plain that they call for very radical changes in a number of our basic limiting principles. I have the impression that we should do well to consider much more seriously than we have hitherto been inclined to do the type of theory which

Bergson put forward in connexion with *normal* memory and sense-perception. The suggestion is that the function of the brain and nervous system and sense-organs is in the main *eliminative* and not productive. Each person is at each moment potentially capable of remembering all that has ever happened to him and of perceiving everything that is happening anywhere in the universe. The function of the brain and nervous system is to protect us from being overwhelmed and confused by this mass of largely useless and irrelevant knowledge, by shutting out most of what we should otherwise perceive or remember at any moment, and leaving only that very small and special selection which is likely to be practically useful. An extension or modification of this type of theory seems to offer better hopes of a coherent synthesis of normal and paranormal cognition than is offered by attempts to tinker with the orthodox notion of events in the brain and nervous system *generating sense-data*.

Another remark which seems relevant here is the following. Many contemporary philosophers are sympathetic to some form of the so-called 'verification principle', i.e. roughly that a synthetic proposition is significant if and only if we can indicate what kind of experiences in assignable circumstances would tend to support or to weaken it. But this is generally combined with the tacit assumption that the only kinds of experience which could tend to support or to weaken such a proposition are sense-perceptions, introspections, and memories. If we have to accept the occurrence of various kinds of paranormal cognition, we ought to extend the verification principle to cover the possibility of propositions which are validated or invalidated by other kinds of cognitive experience beside those which have hitherto been generally admitted.

The Less Firmly Established Results and the Basic Principles

So far I have dealt with paranormal facts which have been established to the satisfaction of everyone who is familiar with the evidence and is not the victim of invincible prejudice. I shall end my paper by referring to some alleged paranormal phenomena which are not in this overwhelmingly strong position, but which cannot safely be ignored by philosophers.

(1) Professor Rhine and his colleagues have produced what seems to be strong evidence for what they call *psycho-kinesis* under experimental conditions. The experiments take the general form of casting dice and trying to influence by volition the result of the throw. Some of these experiments are open to one or another of various kinds of criticism; and, so far as I am aware, all attempts made in England to reproduce the alleged psycho-kinetic effect

under satisfactory conditions have failed to produce a sufficient divergence from chance-expectation to warrant a confident belief that any paranormal influence is acting on the dice. But the fact remains that a considerable number of the American experiments seem to be immune to these criticisms, and that the degree of divergence from chance-expectation in these is great enough to be highly significant.

Along with these experimental results should be taken much more spectacular ostensibly telekinetic phenomena which are alleged to have been observed and photographed, under what seem to be satisfactory conditions, in presence of certain mediums. Perhaps the best attested case is that of the Austrian medium Rudi Schneider, investigated by several competent psychical researchers in England and in France between the first and the second world wars.

We ought, therefore, to keep something more than an open mind towards the possibility that psycho-kinesis is a genuine fact. If it is so, we seem *prima facie* to have an exception to Principle 2. For, if psycho-kinesis really takes place in Rhine's experiments, an event in the subject's mind, viz. a volition that the dice shall fall in a certain way, seems to produce directly a change in a part of the material world outside his body, viz. in the dice. An alternative possibility would be that each of us had a kind of invisible and intangible but extended and dynamical 'body', beside his ordinary visible and tangible body; and that it puts forth 'pseudopods' which touch and affect external objects. (The results of Osty's experiments with Rudi Schneider provide fairly strong physical evidence for some such theory as this, however fantastic it may seem.)

(2) Lastly, there is the whole enormous and very complex and puzzling domain of trance mediumship and ostensible communications from the surviving spirits of specified persons who have died. To treat this adequately a whole series of papers would be needed. Here I must content myself with the following brief remarks.

There is no doubt that, amongst that flood of dreary irrelevance and high-falutin twaddle which is poured out by trance-mediums, there is a residuum of genuinely paranormal material of the following kind. A good medium with a good sitter will from time to time give information about events in the past life of a dead person who claims to be communicating at the time. The medium may have had no chance whatever to gain this information normally, and the facts asserted may at the time be unknown to the sitter or to anyone else who has sat with the medium. They may afterwards be verified and found to be highly characteristic of the ostensible communicator. Moreover, the style of the communica-

tion, and the mannerisms and even the voice of the medium while speaking, may seem to the sitter to be strongly reminiscent of the ostensible communicator. Lastly, there are a few cases in which the statements made and the directions given to the sitter seem to indicate the persistence of an intention formed by the dead man during his lifetime but not carried out. There are other cases in which the ostensible communicator asserts, and the nature of the communications seems to confirm, that action is being taken by him and others at and between the sittings in order to provide evidence of survival and identity.

Some of the best cases, if taken by themselves, do strongly suggest that the stream of interconnected events which constituted the mental history of a certain person is continued after the death of his body, i.e. that there are *post-mortem* experiences which are related to each other and to the *ante-mortem* experiences of this person in the same characteristic way in which his *ante-mortem* experiences were related to each other. In most of these cases the surviving person seems to be communicating only indirectly through the medium. The usual dramatic form of the sitting is that the medium's habitual trance-personality, speaking with the medium's vocal organs, makes statements which claim to be reports of what the surviving person is at the time directly communicating to it. But in some of the most striking cases the surviving person seems to take control of the medium's body, to oust both her normal personality and her habitual trance-personality, and to speak in its own characteristic voice and manner through the medium's lips.

If we take these cases at their face value, they seem flatly to contradict Principle 3. For this asserts that every different mental event is immediately conditioned by a different brain-event, and that mental events which are so interconnected as to be experiences of the same person are immediately conditioned by brain-events which occur in the same brain.

But I do not think that we ought to take the best cases in isolation from the mass of mediumistic material of a weaker kind. And we certainly ought not to take them in isolation from what psychiatrists and students of abnormal psychology tell us about alternations of personality in the absence of paranormal complications. Lastly, we ought certainly to view them against the background of established facts about the precognitive, telepathic and clairvoyant powers of ordinary embodied human beings. There is no doubt at all that the best phenomena of trance-mediumship involve paranormal cognition of a high order. The only question is whether this, combined with alternations of personality and extraordinary but not paranormal powers of dramatization, will not suffice to

account for the phenomena which *prima facie* suggest so strongly that some persons survive the death of their bodies and communicate through mediums. This I regard as at present an open question.

In conclusion I would make the following remark. The establishment of the existence of various forms of paranormal cognition has in one way helped and in another way hindered the efforts of those who seek to furnish empirical proof of human survival. It has helped, in so far as it has undermined that epiphenomenalist view of the human mind and all its activities, which all other known facts seem so strongly to support, and in view of which the hypothesis of human survival is antecedently so improbable as not to be worth serious consideration. It has hindered, in so far as it provides the basis for a more or less plausible explanation, in terms of established facts about the cognitive powers of embodied human minds, of phenomena which might otherwise seem to require the hypothesis of survival.

NORMAL COGNITION, CLAIRVOYANCE AND TELEPATHY

WHEN the Society for Psychical Research did me the honour of making me their President they chose, presumably with their eyes open, a professional philosopher with very little first-hand experience of the subject. I think I shall be most likely to be of use to the Society in my presidential address if I stick to my last and speak as a philosopher.

All of us are aware that our subject differs from most others in the following important respect. It is much harder for us than for workers in other experimental fields to get any empirical facts or first-order generalizations established and universally admitted. No one doubts, e.g. that light is sometimes reflected and sometimes refracted; so the physicist can go on at once to seek for the laws of reflexion and refraction and the conditions under which such events take place. But contrast our position in respect of supernormal cognition. For my own part I have no doubt that telepathy among normal human beings happens from time to time. And it is quite clear to me that, in order to account for the information which is sometimes conveyed by good trance-mediums and automatic writers, a very extensive and peculiar telepathy among the living is the very least that must be postulated. Probably most, if not all, of those here would agree with me. But we know quite well that most scientists and the bulk of the general public would not admit this for an instant. And we know that this is not because they have looked into the evidence and found it faulty or have suggested plausible alternative explanations. They would no more think of looking into the evidence for telepathy than a pious Christian thinks of looking into the evidence for Mahometanism, or a pious Mahometan of looking into the evidence for Christianity. When we leave telepathy and pass to other forms of supernormal cognition there is no agreement even among ourselves. Many of us would say that non-inferential foreknowledge of an event is plainly impossible, and that no evidence could convince us of it. And many of us would feel that the *modus operandi* of pure

clairvoyance or of non-inferential cognition of past events by a person who never witnessed them is so difficult to conceive that we could hardly be persuaded of the occurrence of such cognition.

Of course each of us is influenced to some extent by psychological causes, which are logically irrelevant, when he accepts or rejects an alleged fact or a suggested theory on the strength of evidence submitted to him. But an important logical principle is involved too. The degree of belief which it is reasonable to attach to an alleged fact or a proposed theory depends jointly on two factors, viz. (a) its antecedent probability or improbability, and (b) the trustworthiness of the evidence and the extent to which it seems to exclude all alternatives except the one suggested. On precisely similar evidence it would be reasonable to believe much more strongly that an accused man had cheated at cards if one knew him to be a bookmaker than it would be if one knew him to be an Anglican bishop, because the antecedent probability of the alleged event is much greater in the former case than in the latter. Now antecedent probability depends very largely on analogy or coherence of the suggested proposition with what is already known or reasonably believed about the subject-matter with which it is concerned. Antecedent improbability depends very largely on lack of analogy or positive discordance with what is already known or reasonably believed.

The application of this to our subject is obvious. People have at the back of their minds a certain system of knowledge and belief about the nature and conditions of normal cognition. They suspect that the various kinds of supernormal cognition which have been alleged to happen would be utterly different in nature and would presuppose an entirely different kind of causation. They therefore regard the occurrence of supernormal cognition as antecedently very unlikely, and they demand for it evidence of such amount and such quality as they would not think of requiring for alleged facts of a normal kind. This attitude is, up to a point, perfectly reasonable, and it is impossible to say just where it ceases to be so. It seems to me that the whole situation would be very much clarified if the two following requests could be fulfilled. In the first place, we should like to have a clear and explicit statement of what may reasonably be regarded as well-established facts about the nature and conditions of normal cognition. Secondly, we should like to get from psychical researchers a moderately clear statement of what they understand by 'clairvoyance', 'telepathy', 'pre-cognition', etc., and some suggestions about the possible *modus operandi* of these forms of cognition if they do occur. If such statements were forthcoming, we might be able to see where precisely there is analogy or lack of analogy, coherence or discordance, between

alleged supernormal cognition and admitted normal cognition. This would be a great advance on the present vague impression of oddity and upsettingness.

Now a professional philosopher, interested in Psychical Research ought to be of some use in this connexion. He ought at least to be able to make a moderately coherent answer to the first request, and he might be able to make a few suggestions towards answering the second. I propose to devote the rest of my address to these topics.

The forms of supernormal cognition which have been alleged to occur may be roughly classified as follows. We may divide them first into supernormal cognitions of contemporary events or of the contemporary states of things or persons, and supernormal cognitions of past or future events or the past or future states of things or persons. Under the first heading would come Clairvoyance and Telepathy. Under the second heading would come such knowledge of the past as was claimed by Miss Jourdain and Miss Moberley in their book *An Adventure*, and such foreknowledge as is claimed by Mr. Dunne in his book *An Experiment with Time*. We will call these 'Supernormal Postcognition' and 'Supernormal Precognition' respectively. Since Clairvoyance, if it happened, would involve no complications about other *minds* than that of the cogniser or other *times* than that at which he has his cognition, I shall begin with it. I shall then consider Telepathy. I shall not attempt to deal with Supernormal Postcognition or Precognition in this paper.

Clairvoyance

Suppose that a person correctly guesses the number and suit of a card in a new pack which he has never touched, and which has been mechanically shuffled so that no one else has the information in his mind at the time. If this were to happen often under test conditions, there would be a *prima facie* case for postulating pure clairvoyance. It would then be reasonable to raise the following question: 'Supposing that pure clairvoyance does occur, how far, if at all, is it analogous to ordinary sense-perception?' This is the question which I am now going to discuss.

NORMAL SENSE-PERCEPTION

Plainly we cannot hope to answer this question until we have stated clearly what happens in normal sense-perception. I shall therefore begin by giving what seems to me to be, on the whole, the most reasonable account of this in view of all the known facts. We shall have to consider it in its psychological, its physiological, and

its physical aspects. The subject is very complex and highly controversial, and I shall have to be rather dogmatic in order to be reasonably brief.

I think that the first point to be made is that there are several forms of sense-perception which are, *prima facie*, fundamentally different in nature. Philosophers have too often confined themselves to a certain one of them, viz. visual perception, in discussing the subject. It is essential that we should not make this mistake if we are seeking for analogies between clairvoyance and normal sense-perception. I begin, therefore, by dividing sense-perception into 'extra-somatic' and 'intra-somatic'. In the former the percipient seems to himself to be perceiving foreign bodies and events; in the latter he seems to himself to be perceiving the inside of his own body and processes going on in it. Now there are at least three important forms of extra-somatic sense-perception, viz. hearing, sight, and touch, which seem, *prima facie*, to be unlike each other in certain fundamental respects.

Sight and hearing agree with each other and differ from touch in that they seem to reveal to us things and events which are located at various distances out from our bodies. But hearing differs from sight in the following important way. When I say that I hear a *bell* I should admit that this is an elliptical expression. Strictly speaking, I hear a *noise* of a rhythmic booming kind which seems to be emanating from a distant place and coming to me in a certain direction. I take it that this place contains a bell, and that a certain rhythmic process in it is causing it to make the noise. On this point there would be no difference in principle between the account which an unscientific percipient would give of the experience as it seems to him and the account which a scientist would give of it from the standpoint of physics. But, when I say that I *see* a bell, I do not readily admit that I am using an elliptical expression, as I should admit that 'I hear a bell' is short for 'I hear a bell *tolling*'. I seem to myself to be directly and intuitively apprehending a remote coloured area which I take to be part of the surface of an independent foreign body. I may learn from the scientists that the situation, in its physical aspect, is very much like that which exists when I hear the bell. I may learn that certain rhythmic processes are going on in the place where the bell is, that these cause a disturbance to be emitted in all directions from this centre, and that this disturbance eventually travels to my body and produces a visual sensation. But, even if I accept this as proved, it remains a fact that the situation does not present itself to me in that way when I am having the experience. I continue to seem to myself to be directly apprehending the surface of a remote extended object and to be actively exploring it with my eyes. In this respect visual per-

ception resembles tactual perception, except that the objects are perceived as remote from the percipient's body in the one case and in contact with it in the other.

We may sum up these likenesses and unlikenesses as follows. We may say that hearing is *projective* in its epistemological aspect, and is *emanative* in its physical aspect. We may say that sight is *ostensibly prehensive* and not projective in its epistemological aspect, but is *emanative* in its physical aspect. And we may say that touch is *ostensibly prehensive* in its epistemological aspect, and is *non-emanative* in its physical aspect.

Now the question at once arises whether sight and touch are really, as well as ostensibly, prehensive. We will now consider the two kinds of perception in turn. The mere fact that sight is physically emanative does not, as some people have thought, suffice to prove that it cannot be epistemologically prehensive. It is logically possible that the function of the light-waves which emanate from a distant object, strike the percipient's eye, and thus eventually affect his visual brain-centres, should be purely that of evoking and directing a cognitive act and not in the least that of producing or modifying a cognisable object. In fact the disturbance in the percipient's brain, produced by the light-waves, *might* simply cause his mind to apprehend directly the coloured surface of the remote object from which the waves emanated. If so, visual perception would really be prehensive. But, although this is *logically* possible, I think it may quite safely be dismissed as inconsistent with the facts taken as a whole. The argument for this conclusion is cumulative. Each kind of fact which seems to conflict with the view that visual perception is prehensive can, perhaps, be squared with it if we choose to make a complicated and ingenious enough supplementary *ad hoc* hypothesis. But these various supplementary hypotheses are logically independent of each other; and, when one takes them all together, the prehensive view becomes as complex and artificial and incredible as the Ptolemaic system of astronomy had become just before it expired.

I shall content myself with mentioning one particularly obvious difficulty. Light travels with a finite velocity. It is therefore possible that, when the light which started from a distant star reaches my eye, the star should have moved away from its original position, changed its original colour, or blown up completely. If sight were really prehensive the result of the light now striking my eye and affecting my brain would be that I now directly apprehend the surface of the star as it was when the light left it perhaps a thousand years ago. My act of direct acquaintance would thus have to bridge a temporal gap of a thousand years between the date of its own occurrence and the date of existence of its own im-

mediate object. Yet the object which I see is most certainly perceived by me as simultaneous with my act of seeing it.

I conclude that visual perception, though *ostensibly* prehensive of external objects, is not *really* so. All the facts conspire to support the following conclusion. When I have a visual perception I seem to myself to be directly apprehending an area of a certain size and shape, coloured in a certain way, and forming part of the surface of a certain material thing at a certain position outside my body. But the shape and size and position which I perceive it as having, and the colour which I perceive as pervading it, are completely and finally determined, on the physical side, by certain processes which are going on at the time in a certain part of my brain. Provided that these processes are going on in this part of my brain, and that my mind is functioning normally, I shall have exactly this kind of visual experience no matter how the brain-process may have been set up, and no matter whether there is or is not an external body such as I seem to myself to be directly apprehending. If the brain-process has been set up by light which has travelled from an external source through a homogeneous medium to my eye, the visual perception will be as nearly veridical as it is possible for a visual perception to be. If it has been set up by light which has travelled from an external source but has undergone reflexions or refractions before reaching my eye, the visual perception may be highly misleading in many respects, but it will not be utterly delusive. If it has been set up by events in my own body, as in dreams or delirium, or by such abnormal causes as the suggestions of a hypnotist, the visual perception will be utterly delusive. Thus, even in the most favourable case, where there is or has been an external source and where the visual perception gives the percipient correct information about its shape, position, and physical state, the connexion between the act of perceiving and the external source is extremely remote. Even in this case the source and the processes going on in it are at most a *remote causal ancestor* of the visual perception and are never *the immediate object* of it. Thus there is always a certain element of delusiveness in even the most normal and veridical visual perception. For the percipient always seems to himself to be *directly apprehending* the surface of a remote object *as it now is*, whilst at best he is only cognizing *very indirectly* certain facts about an emitting source *as it formerly was*. Owing to the very great velocity of light the time-error is practically unimportant except when the source is at an astronomical distance from the observer. But ostensible prehensiveness, like original sin, is a taint which equally and systematically infects all visual perceptions, good, bad, or indifferent.

One important consequence of this is the following. Consider

the statement: 'You and I are seeing the same part of the surface of the table.' There is no reason to doubt that such statements often record facts, and that they do this quite efficiently for most of the practical purposes of daily life. Nevertheless there is a *suggestio falsi* about them. They suggest that there is a certain part of the surface of a certain external body which you and I are both directly apprehending. But the fact which they record, when they do record a fact, is much more complex and of a very different kind. It would be more accurately expressed by the statement: 'This visual experience of mine and that visual experience of yours, though they are not prehensions of a common object, have a common causal ancestor in an emitting source outside our bodies.'

We can now turn our attention to tactual perception. As I have said, this is ostensibly prehensive in its epistemological aspect, and is non-emanative in its physical aspect. In tactual perception we must distinguish three factors. (i) Awareness of various sensible qualities, such as hotness and coldness, roughness and smoothness, etc. This may be compared with awareness of auditory qualities in hearing and colours in seeing. (ii) Awareness of shape and extent. This may be compared with the corresponding factor in visual perception. There is, I think, nothing like it in hearing. (iii) The experience of actively pulling and pushing foreign bodies which are in contact with one's own and making them move in spite of their varying degrees of resistance to one's efforts; the experience of trying to move them and failing because the resistance which they offer is too great; and the experience of being forced to move, in spite of resisting to one's utmost, by the thrust and pressure of other bodies on one's own. I will call this *dynamic* experience. I know of nothing analogous to it in any other form of perception.

It is this dynamical factor in tactual perception, and the systematic way in which variations in it are correlated with variations in the non-dynamical factors, which makes it difficult even for the most sceptical to doubt that tactual perception is really prehensive of external objects. We may admit at once that there is not here, as in the case of visual perception, a large coherent mass of facts which it is difficult or impossible to reconcile with the prehensive view. It might even be argued with some plausibility that, unless we *really are* directly acquainted with foreign bodies in the experience of active manipulation, we should never have *seemed to ourselves* to be directly acquainted with them in visual perception. But we must not let ourselves be rushed into accepting the prehensive view of tactual perception until we have noted one important fact which may bear in the opposite direction.

Tactual perception shares with sight and hearing a characteristic which we have not yet mentioned. It is *transmissive* in its

physiological aspect, i.e. it depends on the existence and functioning of nerves which connect the periphery of the body to the brain and convey disturbances at a finite rate inwards and outwards. Now it is certain that the occurrence of a characteristic kind of disturbance in my brain is a *necessary* condition without which I shall not have a perception of myself as touching and interacting with a foreign body. The question is whether the occurrence of such a process in my brain is also the *sufficient* physical condition of my having such an experience. If it is sufficient I should have exactly the same tactual experience, provided that this process in my brain were to occur and that my mind were working properly, even if there were no foreign body in contact with my skin. If this were so, my tactual perceptions could not be prehensive. It is difficult to settle this question conclusively, because it is doubtful whether precisely that kind of brain-state which occurs when I am actually manipulating and struggling with a foreign body ever does arise from purely internal causes. But the fact that I can dream that I am struggling with a foreign body, though I am in fact doing nothing of the kind, certainly suggests that even the experience of active tactual manipulation may not be really prehensive.

My own tentative view is that tactual perception is probably not prehensive of external objects, but that, in spite of this, it justifies us in being practically certain that there are foreign bodies and that they do interact with our own bodies. It seems to me just conceivable, though extremely unlikely, that I might have had the kinds of experience which I describe as 'seeing' or 'hearing' foreign bodies even if there had been no foreign bodies or if they had never emitted light-waves or sound-waves to my body. But I find it almost impossible to believe that I could *ever* have had the kind of experience which I describe as 'pushing' or 'pulling' or 'struggling with' foreign bodies unless there had been foreign bodies and they had *quite often* interacted dynamically with my own body through contact. Granted that this has quite often happened, it is not hard to explain how occasionally, in dreams or delirium, I may have a close imitation of this experience although no foreign body is then interacting dynamically with mine.

There is one important point on which I want to insist before leaving the topic of extra-somatic perception. I have argued that, when we have the experience of hearing, seeing, or touching something, we are not in fact apprehending directly the foreign body, if such there be, which we say we are hearing, seeing, or touching. Now at this stage there is a risk of making a serious mistake. It might be thought that, because hearing, seeing, and touching are indirect and mediate, in the sense of being non-prehensive, they must be indirect and mediate in the sense that they involve infer-

ence. This would be a profound mistake. Even in the case of hearing I do not *argue*, from the fact that I am hearing a booming recurrent noise and from certain general principles of physical causation, that there is probably a bell tolling in a certain place outside my body. The fact is that my auditory experiences have been closely correlated with certain of my visual and tactual experiences in the past, and this correlation has established a persistent system of traces and dispositions in my mind. When I now hear a booming recurrent noise a certain part of this dispositional system is excited, and the auditory sensation is at once invested with an aura of acquired meaning in terms of a remote visible and tangible source. It is still more obvious that there is no element of inference in the experience which I call 'seeing this' or 'touching that'. I doubt whether we can account psychologically for the ostensible prehensiveness of visual and tactual perception by any process of acquirement of meaning through association in our early years. I think we must assume that visual and tactual experiences are taken by us, from the very first, as revelations of an external material world. No doubt all the later detailed development of this primitive vague conviction depends on the actual course of our experience and on the particular associations which are established in our early years.

So much for the purely psychological point. There is a logical point closely connected with it. Beliefs which were not reached by inference may be capable of being supported or refuted by inference. Now, in my opinion, something like the common-sense belief in a world of extended movable interacting bodies can be shown to be highly probable, on the basis of our auditory, visual, and tactual perceptions and their correlations, if and only if the following premiss is granted. Our primitive uncritical conviction that our visual and tactual perceptions are manifestations of an external material world, and that distinctions and variations in them are signs of distinctions and variations in it, must be allowed to have an appreciable antecedent probability. There is no way of proving this indispensable premiss. Some people may find it self-evident and count it as an axiom. I am content to take it as a postulate. We will call it the *Postulate of Perceptual Transcendence*.

Finally we must consider intra-somatic perception, i.e. the perception which each of us has of his own body, and of no other body, by means of organic sensations. Each of us is almost always aware of a general somatic background or field, which is vaguely extended and fairly homogeneous in quality throughout its extent. It is fairly constant in general character, though its specific tone varies from time to time. Such variations are recorded by expressions like: 'I am feeling tired', 'I am feeling well', 'I am feeling

sick', and so on. No doubt the general character changes very slowly as we get older, and it may undergo profound and fairly sudden modifications in illness or at certain periods of normal life such as puberty. Against this fairly homogeneous and constant background there happen from time to time outstanding localized feelings which are independent of one's volition, e.g. a sudden twinge of toothache, a prolonged and voluminous stomach-ache, and so on.

We might compare the general somatic field to the visual field of which one would be aware if one lay on one's back and looked up at the sky when there is not much movement among the clouds. And we might compare the occasional localized outstanding toothaches, stomach-ache, etc., to the visual *sensa* which we should sense if there were occasional flashes of lightning, dark masses of cloud, and so on, in the sky.

Lastly, we must notice that, whenever we deliberately act upon or react against a foreign body, there are characteristic localized changes in the somatic field, connected with the pressures, tensions, and movements of our muscles and joints.

The following points are of special importance for us to notice. (i) Intra-somatic perception, like all other normal perception, is transmissive in its physiological aspect. If I am to have the kind of experience which I record by saying 'I am feeling a pain in my toe', it is not *sufficient* that there should be a process of a certain kind going on in my toe. It is *necessary* that a certain process should be going on in my brain. Moreover, we are told on good authority that persons who have had a limb amputated may yet have experiences of the kind which they would record by saying 'I have a pain where my amputated limb used to be'. It therefore looks as if the occurrence of a certain process in the brain were the final and *sufficient* physical condition of the occurrence of this kind of experience. If so, intra-somatic perception cannot be *really* prehensive of one's own body, however much it may seem to be so to the percipient. (ii) There is, however, no reason to doubt that the brain-process, which is the final and sufficient physical condition of an intra-somatic perception, generally arises from and corresponds in structure with a certain process in a certain other part of the percipient's body, such as his stomach or a tooth or a toe. Thus, although intra-somatic perception is probably not prehensive, there is no reason to doubt that it is generally veridical in outline if not in detail. (iii) One's awareness of one's somatic field as extended, and one's awareness of this or that outstanding bodily feeling as happening in this or that part of it, are, I think, psychologically quite primitive experiences. But the identification of this extended somatic field with the region occupied by one's body as a visible

and tangible object, and the correlation of each part of the former with a certain part of the latter, are, I am sure, products of early experience and association.

Before I leave the topic of normal perception I want to point out a certain analogy between sight and intra-somatic perception which seems to me interesting and important. So long as it is light and one's eyes are open, one really is directly apprehending *something*, though it is not what one uncritically takes it to be. This something is an extended, spatially continuous, variously coloured and shaded field, which is presented as a finite but unbounded whole. Outstanding coloured patches are presented as *differentiations* of this whole, not as *independent elements*, like bricks, out of which it is built. The mistake which each of us makes is to *identify* this directly apprehended field and its differentiations with something public, neutral, and independent of him, viz. the ground, the sky, the surfaces of houses and trees, and so on. There really is a connexion between the two, but it is much more remote than we uncritically take it to be. I am going to sum up these facts about visual perception by calling it *synoptic* and *macrocosmic*. Now intra-somatic perception may be described as *synoptic* and *microcosmic*. It is synoptic because the somatic field is presented as a whole, and the outstanding bodily feelings are presented as localized differentiations of this whole. It is microcosmic because, in apprehending it, one does not seem to oneself to be apprehending a public neutral world of independent objects. On the contrary, one seems to oneself to be apprehending in a uniquely intimate way a certain particular object which is uniquely associated with oneself.

Touch, in contrast with sight and intra-somatic perception, gives us information piecemeal about foreign bodies and the surfaces of our own bodies. And, as we have seen, it makes us aware of bodies as dynamically interacting substances. Thus sight, touch, and intrasomatic perception severally supply their own characteristic contributions to our knowledge of ourselves and of foreign bodies. And it is only through their coexistence and their intimate co-operation that we acquire the general world-schema which is the common background of daily life and of natural science.

CLAIRVOYANCE AND SENSE-PERCEPTION

Let us now turn from normal perception and consider an alleged case of clairvoyance. It is essential to take something quite concrete and not to talk vaguely. I will suppose that a special pack of cards has been made on the following plan. Every card has for its face a white background on which are either squares or circles, but not both. Every card has black pips or red pips, but no card has a

mixture of both. There are thus four suits, which we can call Red Squares, Black Squares, Red Circles, and Black Circles. Lastly, in each suit there are ten cards in sequence from ace to ten. The backs of all the cards are uniformly brown. Let us suppose that the percipient correctly guesses that the sixth card from the top of a new and mechanically shuffled pack of this kind is the eight of red squares. And let us suppose that such guesses of his have so often been right that we cannot ascribe his success to chance. Could we suppose that anything analogous to normal sense-perception is taking place?

To assert that a certain card is the eight of red squares is to assert three independent propositions, viz. that there are *eight* outstanding patches on the surface, that these are *square* in outline, and that they are *red* in colour. Now all these propositions could be known by sight to a person who could look directly at the front of the card in white light. This implies that there are eight square patches on the card, which differ physically from the background in such a way that they selectively reflect the red-stimulating light-waves whilst the background reflects equally light of all wavelengths in the ordinary spectrum. Let us try to suppose that the clairvoyant gets his information by some mode of perception analogous to sight or hearing.

We shall have to suppose that the percipient's body is being stimulated by some kind of emanation from the front of the sixth card in the pack, although the back of the card is towards him. We shall have to suppose that the five cards which are on top of the selected one are transparent to this emanation, though they are not transparent to light. We shall presumably have to suppose that the five cards which are on top of this one and the thirty-four which are beneath it are all equally emitting radiation of this kind. Thus the emanation from the selected card will reach the percipient's body mixed up with the emanations from all the other cards in the pack. Next we shall have to assume that, although the emanation is not light, yet there is a characteristic difference between the emanation from the pips and the emanation from the background, correlated with the difference between red-stimulating and white-stimulating light-waves. Without this there is no hope of explaining how the clairvoyant can tell that there are pips and a background and judge the number of pips. Still less could we explain how he can tell the colour of the pips on the selected card. When we look more carefully into the last mentioned assumption we find that it is equivalent to the following supposition. We are, in effect, supposing that the physical difference between the pips and the background, which makes the former selectively reflect red-stimulating light-waves and the latter indifferently

reflect a whole mixture of light-waves, is correlated with another physical difference which is concerned with another and unknown kind of emanation. This is certainly not very plausible.

We have not yet attempted to deal with the clairvoyant's knowledge that the pips on the sixth card from the top are square in outline. No assumption that we have so far made will account for this. If the face of the card were being looked at directly in white light, the light reflected from its surface would travel in straight lines to the percipient's eye. There it would pass through the pupil and be focused by the lens on the retina. There it would excite different parts of a certain area in various ways. The area as a whole, and the distribution of the excitement over it, would be geometrically a projection of the surface from which the light came. From this excited area, through the optic nerve, a corresponding pattern of excitement would be transmitted to the brain. At this stage the percipient would directly apprehend an outstanding oblong patch in his visual field, with a white background and eight red squares scattered about it. This he would automatically and uncritically, but erroneously, take to be the surface of the card. In order to have any analogy with all this we should have to assume that the emanation travels in straight lines through the medium between the card and the percipient's body, and that there is in his body some organ for collecting it and focusing it on a sensitive surface. I need hardly say that we know of no part of our bodies which could plausibly be regarded as such an organ. Moreover, the fact that we have had to assume that ordinary matter is transparent to this emanation makes it difficult to see how a material organ could collect and focus it. It is like being asked to construct a camera, or a telescope, or a microscope when the only material provided is clear transparent glass.

I have now dealt with the physical and physiological assumptions which would be involved in supposing that clairvoyant cognition is analogous to sight or hearing. It remains to consider the psychological aspects of this supposition. In the first place, we should have to assume that the ultimate result of this emanation being received by the appropriate organs, and of the disturbance being transmitted to the appropriate part of the brain, is that the clairvoyant directly apprehends a total sense-field of a characteristic kind. This experience must be analogous to the normal man's apprehension of his visual or his auditory field. So far as I know, there is no introspective evidence for the occurrence of any such experience in persons who claim to be clairvoyant. We should therefore have to assume that this peculiar kind of sensory experience belongs to a part of their mind which they cannot introspect in normal waking life.

Next we must assume that this peculiar sense-field is differentiated, and differentiated in a very special way. There must be in it an outstanding sensum which in fact corresponds to the sixth card from the top of the pack, and there must be in this sensum eight outstanding differentiations which in fact correspond to the eight pips on the face of this card. Moreover, there must be a certain determinate sensible quality in these eight outstanding differentiations which in fact corresponds to the visible squareness of the pips as they would appear to sight. There must also be a certain other determinate sensible quality in these eight outstanding differentiations which in fact corresponds to the visible redness of the pips as they would appear to sight. Although emanations are coming in on top of each other from all the cards in the pack, and presumably from the table and the walls too, we must assume that the sensum specially connected with the emanation from any particular card is distinct enough to be discriminated from the rest of the sense-field by the percipient if he pays enough attention. We must also assume that such a sensum has enough discriminable detail to display those features in the card which would appear to sight as a certain number of pips of a certain shape and a certain colour.

It must be admitted that this involves a very heavy draft on the bank of possibility. I think that the nearest known analogy is provided by hearing. The waves from a number of simultaneously sounding sources, such as the instruments in an orchestra, do come in on top of each other. Yet it is possible with practice and attention to discriminate the noise which in fact comes from one instrument from the noise which in fact comes from another. It is also possible to distinguish overtones, if one has an acute ear, in the noise which comes from a certain instrument. This analogy, though it is not to be despised, does not carry us very far. The noise which in fact comes from a certain instrument has no auditory quality which is invariably correlated with the *shape* or the *colour* which that instrument manifests to sight. The analogy would be a little closer if, when we looked at the various instruments, they appeared to be visibly vibrating at various rates and with various amplitudes. Then there really would be a systematic correlation between the *auditory* qualities of the *noise* which comes from a certain instrument and certain *visible* characteristics in the appearance which that instrument would present to *sight*.

We are not yet at the end of the psychological assumptions which we should have to make. It is not enough that there should be in the clairvoyant's peculiar sense-field a certain discriminable sensum which *in fact* corresponds to the sixth card from the top of the pack. If he is to answer our question: 'What is the sixth card from

the top?' he must *know* or have reason to *believe*, with regard to a certain discriminable sensum in his field, that *it* corresponds to the sixth card from the top. Again, it is not enough that this sensum should have eight differentiations which *in fact* correspond to the eight differentiated areas on the card which appear to sight as eight red squares. If he is to answer our question, he must *know* or have reason to *believe* that the eight differentiations in this sensum correspond to eight differentiated areas on the card which would appear to sight as eight red squares. He must therefore know or have reason to believe, with regard to a certain sensible quality of these differentiations in this sensum, that it corresponds to visible squareness. And he must know or have reason to believe, with regard to a certain other sensible quality of these differentiations, that it corresponds to visible redness. Unless the clairvoyant knew these facts he would be in much the same position as a man born blind who had acquired plenty of tactual experience and was then suddenly enabled to see. In the visual field of such a man there would be outstanding coloured patches which are *in fact* visual appearances of various things from which he has already received tactual sensations. And the visible shape of these visual sensa would *in fact* correspond to the tangible shape of the corresponding tactual sensa. But the newly cured blind man would not *know* these facts or have any reason to suspect them. So, if we were to ask him a question about an object which he has touched in the past and is no longer touching but is seeing for the first time, his visual experience would not help him in the least to answer it. It is not until his experiences of sight and touch have become correlated and associated, so that a certain kind of visual appearance has come to *represent for him* a certain kind of tactual appearance, that his newly acquired power of visual perception will enable him to answer our questions about external objects.

How could the clairvoyant acquire such knowledge or belief as we have had to assign to him? The extremely intimate association between sight and touch, which is established in infancy in all normal people, seems to provide the only helpful analogy. Here we must substitute for it an intimate association between sight and the peculiar kind of sense-experience which we have assumed the clairvoyant to possess. We shall have to suppose that all or most things which are visible also emit the peculiar emanation which gives rise to this peculiar kind of sense-experience when it reaches the clairvoyant's body. And we must suppose that every variation in the light reflected from bodies is correlated with a corresponding variation in this emanation. On this assumption, the clairvoyant will from infancy have been apprehending two co-existing and intimately correlated sense-fields, viz. the normal visual field and

the peculiar sense-field connected with the emanation. This may be compared with the case of the plain man who apprehends from infancy a visual and a tactual field which are intimately correlated with each other. The difference is that the normal man is constantly aware of apprehending both the visual and the tactual field, whilst the clairvoyant in ordinary waking life is not aware of apprehending the peculiar sense-field connected with the emanation. In consequence of this constant and detailed correlation between the contents of the visual sense-field and those of the peculiar sense-field, in the clairvoyant's case, an intimate association will be established in his mind between the two, just as an intimate association is established in the case of the normal man between his visual and his tactual sense-fields.

When a normal man in the dark has a tactual sensation of a certain familiar kind, which has become associated through frequent past experience in the light with a certain kind of visual appearance, he is able to describe in visual terms the object which he is at present only touching and not seeing. Similarly, when the clairvoyant has a familiar sensation of his own peculiar kind, which has become associated through frequent past experience with a certain kind of visual appearance, he will be able to describe in visual terms the object which is evoking this sensation by its emanation but is at present hidden from his view.

It seems at first sight most unplausible to postulate in the clairvoyant's mind a whole special group of sensations of which he is totally unaware, and then to postulate that they are intimately correlated with his ordinary visual sensations and eventually become associated with the latter. Yet it must, I think, be confessed that a very similar postulate is unblushingly made by the most orthodox psychologists in trying to explain normal visual perception of distance and solidity. We are told a great deal by these scientists in this connexion about sensations of accommodation and sensations of convergenc. We are told that these become so intimately associated with purely visual sensations that the minutest variation in the one represents to the percipient a corresponding variation in the other. But the fact remains that most of us at most times are quite unaware of these constantly occurring and continually varying sensations of accommodation and convergence. If we focus our eyes for a long time on a very small and very near object, we may begin to notice sensations of accommodation. If we indulge in elaborate and deliberate squinting, we may notice sensations of convergence. But it is only in these exceptional circumstances that such sensations are noticed or noticeable by the person who, presumably, is in fact never free from them. So orthodox psychologists are not in a position to cast stones at the postulates

which would have to be made about the clairvoyant's special sense-field.

I have now enumerated and explained the various assumptions, physical, physiological, and psychological, which would have to be made if clairvoyance is to be regarded as a peculiar kind of sense-perception, emissive in its physical aspect, like sight or hearing. It must be confessed that they make a formidable list. But it is better to set them out fully and to face them squarely than to talk vaguely of analogies to wireless and television and 'the marvels of modern science'. Many people will be inclined, when faced with this list of necessary assumptions, to conclude that the attempt to make clairvoyance analogous to sight or hearing must be dropped.

Now, unless clairvoyance be analogous to a physically emissive form of sense-perception, like sight or hearing, it can hardly be analogous to *any* form of normal sense-perception. If we tried to compare it with touch, we should have to suppose that the clairvoyant's body is provided with invisible and intangible organs, supplied with sensitive spots on their surface and with conducting nerves. We should have to suppose that he can thrust these out and poke them between two cards which are, and remain throughout the experiment, visibly in continuous contact with each other. And we should have to suppose that the square areas on the card which differ from the background by selectively reflecting red-stimulating light-waves also differ from the background by giving a special kind of stimulus to the sensitive spots on this quasi-tactile organ. It seems hardly worth while to linger over these fantastic suppositions, or to consider what others might be needed in addition to them.

Perhaps some psychical researchers will welcome these conclusions. They will remind us that they have always insisted that clairvoyance cannot be analogous to any form of sense-perception, and they will feel that I have only been underlining the obvious. I cannot share their satisfaction. Have those who believe that clairvoyance occurs, and deny that it is analogous to any form of sense-perception, any positive notion of its psychological nature or its *modus operandi*? If they have, it is most desirable that they should expound it. If they have not, they are just postulating what Locke would have called 'a something, I know not what'. Since their postulate will then have no discernible analogy or connexion with anything that is already known and admitted to be a fact, it will be impossible to assign a degree of antecedent probability or improbability to it. In that case we shall be unable to come to any rationally justified degree of belief or disbelief when they produce their empirical evidence, however impressive it may be.

CLAIRVOYANCE AS NON-SENSUOUS PREHENSION OF PHYSICAL OBJECTS

The only intelligible positive interpretation which I can put on this view of clairvoyance is the following. Those who deny that clairvoyance is analogous to any form of sense-perception might suppose that the clairvoyant *really does* directly apprehend remote physical objects, as the ordinary man *seems to himself to do* in sight and touch. This supposition is, I think, *prima facie* intelligible. As I have said in discussing normal sense-perception, each of us really does directly apprehend *something* when he is seeing, hearing, etc. In seeing, e.g. one is directly apprehending an extended continuous variegated coloured field; though one uncritically mistakes it for something else, of a quite different nature, which one does not directly apprehend. So we can understand, in general outline at any rate, what we are being asked to suppose in the case of the clairvoyant.

But, as soon as we begin to consider the suggestion in detail, it becomes less and less intelligible. The card called the 'eight of red squares' is a physical object which, when suitably illuminated, reflects light-waves. If these reach the eye of a normal human observer, they stimulate it in a characteristic way, and at a certain stage in the process a characteristic kind of disturbance is set up in his optic centres. If and only if all this should happen, the card will be represented in the observer's visual field by an outstanding white oblong sensum with eight outstanding square spots on it. There is not the faintest reason to believe that the card itself, which is the locus of a remote causal ancestor in this long and variegated chain of events, has literally and intrinsically any colour whatever. That which corresponds in a physical object to the colour which it is perceived as having is presumably some special configuration or some rhythmic motion of its minute constituents, which causes it to reflect certain kinds of light-waves and to absorb others. If, then, the clairvoyant directly apprehends the card, as it intrinsically and independently is, he will *not* apprehend it as a thing with a white continuous surface on which there are eight square red spots; for it is almost certainly nothing of the kind. He might, perhaps, apprehend it as a swarm of very small colourless electric charges in very rapid rhythmic motion; for, according to the best information available at present to those of us who are not clairvoyants, this or something like this is what the card most probably is.

Now, if clairvoyants do *directly apprehend* physical objects as having those characteristics which scientists *laboriously infer* that they must have, they show no sign of being aware of their own knowledge. If they were, they could presumably put it, at least

roughly and in outline, into words. They would then be invaluable helpers in all physical laboratories; for their information, artlessly expressed but 'straight from the horse's mouth', would suffice to head scientists off from plausible but false theories and to suggest fruitful lines of experiment and speculation. We shall have to assume, then, that the clairvoyant's direct apprehension of physical objects, as they intrinsically are, occurs in a part of his mind which is cut off from his ordinary waking experience.

The clairvoyant describes the unseen card in terms of colours, visible shapes, etc., and not in terms of electric charges, waves, and rhythmic motions. We shall therefore have to explain how he translates his direct apprehension of the unseen card, as it intrinsically is, into the colours, visible shapes, etc., which it would appear to have if it were being seen by a normal human being in daylight. It will be remembered that there is a rather similar problem for those who regard clairvoyance as a peculiar form of sense-perception. The suggestion which I made in that connexion might, perhaps, be modified to deal with the present problem. We shall have to suppose that the clairvoyant has, from infancy, been continuously though unconsciously apprehending directly all those objects which he has also been cognizing indirectly through sight and touch. Then we can suppose that an association would be set up between, e.g. the conscious experience of seeing an object as red and the unconscious experience of directly apprehending it as having that intrinsic characteristic which makes it selectively reflect red-stimulating light-waves. Suppose that, on some future occasion, such an object, though no longer visible, is still being directly but unconsciously apprehended by the clairvoyant. He will still apprehend it as having that intrinsic characteristic, whatever it may be, which has now become associated in his mind with the visual appearance of redness. Consequently the idea of it as a red-looking object will arise automatically in his mind, and he will announce that the unseen object is red.

I have now stated and tried to work out in some detail two alternative views of what clairvoyance would be if it took place. Neither of them is in the least attractive or plausible, but I know of no other alternative that is even intelligible. I hope that some of those who think that there is adequate evidence of clairvoyance will be inspired to suggest some other view of it which will be equally intelligible and much more plausible. Though I can offer no hint of a solution, I may possibly have given them some help by setting out elements of the problem in a clear and orderly way.

Telepathy

TELEPATHIC INTERACTION

It is commonly assumed that one embodied mind can affect another only in an extremely roundabout way. It must first affect its own body; then this change in its own body must set up a series of physical changes which eventually affect another ensouled body; and, finally, this change in the other ensouled body must produce a change in the mind which animates it. Thus the process involves a psychophysiological transaction at one end, a physiologico-psychical transaction at the other end, and a purely physical causal series between the two. A further restriction is commonly imposed on this general scheme. It is usually assumed that the process set up within the one ensouled body must issue in some overt macroscopic change of it, such as emitting a sound, making a gesture, or assuming a new facial expression; and it is assumed that this must affect the other ensouled body by sight, hearing, touch, or some such form of normal sensory stimulus. The wider assumption may be summed up in the following general principle: 'The only thing, other than itself, with which an embodied mind can directly interact is the brain and nervous system of the body which it animates.' If this be granted, the rest follows.

We can now imagine various stages in which the common-sense assumption might be given up. (i) We might keep the general principle, but drop the further restriction which is commonly put on it. We might suppose that, in certain cases, the disturbance set up in A's brain by an event in his mind initiates a physical process of an emanative kind which travels out in all directions; that this may set up a disturbance in B's brain, if it reaches the latter; and that this disturbance in B's brain may affect his mind. On this view there need be no overt macroscopic change in A's body, such as emitting a noise, making a gesture, etc. And B's brain need not be stimulated through any of the ordinary sense-organs by what is happening in A's body. Yet the general principle about interaction will remain intact.

(ii) The next stage would be to drop one half of the general principle and to keep the other half. This would give two possible alternatives. (a) We might continue to assume that A's mind can directly affect only A's brain, and that B's mind can directly affect only B's brain. But we might now suppose that A's mind can, in some cases, be directly affected by disturbances in B's brain; and that B's mind can, in some cases, be directly affected by disturbances in A's brain. (b) We might continue to assume that A's mind can be directly affected only by A's brain, and that B's mind

can be directly affected only by B's brain. But we might now suppose that A's mind can, in some cases, directly produce disturbances in B's brain; and that B's mind can, in some cases, directly produce disturbances in A's brain.

(iii) Lastly, we might drop the general principle altogether. We might suppose that, in certain cases, one embodied mind can affect or be affected by another embodied mind *directly*, without any physiological or physical mediation. I propose to call the first alternative the 'Brain-wave Theory', and the third alternative the 'Theory of Direct Intermental Transaction'. Theories of the second kind might be called 'Theories of Extended Psycho-physiological Interaction'. I cannot pretend that this is a 'snappy' title, but I think it is accurately descriptive.

If either of these three suppositions were ever realized in practice we should say that there had been a case of 'Telepathic Interaction'. If it were an instance of the Brain-wave Theory it would involve no supernormal interaction between mind and matter or between mind and mind. It would involve nothing but an unusual transaction between two brains and an intervening physical medium. If it were an instance of either form of the Theory of Extended Psycho-physiological Interaction it would involve supernormal interaction between mind and matter, but no direct interaction between mind and mind. The supernormality of the transaction would consist in the fact that an event in *one man's mind* directly affects or is directly affected by an event in *another man's brain*. If it were an instance of the Theory of Direct Intermental Transaction it would involve supernormal interaction between two embodied minds, but it would not necessarily involve any supernormal interaction between mind and matter.

If the Brain-wave Theory would fit the empirical facts, it would be preferable to the other two in respect of antecedent probability. But the general opinion of those who have studied the facts seems to be definitely adverse to this theory.

In favour of the Theory of Extended Psycho-physiological Interaction it may be said that we do know that each embodied mind directly affects and is directly affected by *at least one* brain and nervous system, though this kind of transaction has to be accepted as a completely mysterious brute fact. This one brain and nervous system is, of course, that of the one material system to which this mind stands in the peculiar relation of 'animating'. Now the theory under discussion is that this direct interaction between minds and brains, which is admitted to occur, is not necessarily or invariably restricted within these limits. Either the range within which direct interaction between a mind and a body is possible extends beyond the limits marked out by the relation of animation,

or the relation of animation extends more widely than common-sense recognizes. The latter suggestion amounts to supposing that an embodied human mind may animate a material system which includes, in addition to one human body, parts of another human body which is animated by another human mind. This relation might be mutual as between two human individuals A and B. A's mind might animate a material system which includes, beside what we call 'A's body', a part of what we call 'B's body'; and B's mind might animate a material system which includes, beside what we call 'B's body', a part of what we call 'A's body'. In some cases of multiple personality it looks as if there were two minds simultaneously animating either the whole of a common brain and nervous system, or, at any rate, animating two parts of it which overlap each other. This at least supplies empirical support for the general conclusion that the relation of animation between minds and bodies is not always one-to-one. If two minds can animate one body, it may not be unreasonable to contemplate the possibility that one mind may animate one body and a bit of another body.

These speculations are, I know, very wild; but I make no apology for them on that account. The admitted relation of animation between the mind and the body of a normal human individual, and the admitted interactions between the two, are so mysterious that we are left with a wide field for legitimate conjectures. The situation is very different from that which faced us when we were considering normal sense-perception and alleged clairvoyance. We have a great deal of positive knowledge about normal sense-perception, in its physical, its physiological, and its epistemological aspects; so the field for legitimate conjecture is there much narrower.

Passing finally to the Theory of Direct Intermental Transaction, we must, I think, assign to it the lowest antecedent probability of the three typical theories. So far as I am aware, it is supported by no known analogy with admitted facts. We should, therefore, hesitate to resort to it unless the evidence rules out all theories of the other two types.

TELEPATHIC COGNITION

We have so far considered the possible *causal relations* between two embodied minds; we must now turn our attention to what primarily concerns us in this paper, viz. the possible *cognitive relations* between them. It is important to be quite clear that these are different problems, for the word 'Telepathy' seems often to be carelessly used to cover both supernormal causal influence of one embodied mind on another and supernormal cognition of one embodied mind by another. We have given the name 'Telepathic

Interaction' to the former, and we will call the latter 'Telepathic Cognition'. Probably telepathic cognition would be impossible without telepathic interaction, but there is not the least reason why there should not be telepathic interaction without telepathic cognition. Cognizing or being cognized, on the one hand, and affecting causally or being affected causally, on the other, are utterly different relations. If either of them can be analysed, which is doubtful, it is certain that neither of them forms any part of the analysis of the other. So there can be no *logical* impossibility in two terms being related by one of them and not by the other. And, if it be granted that two minds could influence each other telepathically at all, it is quite easy to imagine that two minds which remained completely ignorant of each other might yet be in fact influencing each other frequently and profoundly by telepathic interaction.

Having made this distinction clear, we can now turn our attention to the cognition by one mind of another mind and its experiences. I shall begin by stating and explaining two principles which are commonly, if tacitly, assumed to apply to embodied human minds and their normal cognitions. The first is that one and the same experience cannot be owned by more than one mind. I do not think that anyone would question this. It is true that we sometimes use expressions which, if literally interpreted, would imply that one and the same experience is owned by several minds. We might, e.g. say of two people who both believe that Francis wrote the *Letters of Junius* that they both have the same belief about the authorship of the *Junius* letters. But we all recognize at once that such statements are not to be taken literally. One belief that Francis wrote these letters occurs in A's mind and not in B's; another belief that Francis wrote these letters occurs in B's mind and not in A's. When we talk of *the same* belief occurring in two minds we mean that *two* beliefs, which stand in a common relation to *one and the same fact*, viz. the actual but unknown authorship of the *Junius* letters, are occurring, and that one belongs to one mind and the other belongs to the other mind. A similar interpretation would have to be put on any statement that seemed to conflict with our principle. We will call this the 'Principle of Unique Ownership of Experiences'.

We come now to the second principle. It may be stated as follows. Any particular existent which can be directly apprehended by an embodied mind can be directly apprehended *only by one* such mind. Let us consider what kinds of particular existents a given embodied mind M can directly apprehend. They are (i) M itself, perhaps; (ii) some, if not all, of M's experiences; (iii) certain mental images; (iv) somatic sensa connected with the processes in M's

body; and (v) certain visual, tactual, auditory, and other kinds of extra-somatic sensa. Of course the plain man would have included in this list something which we have not included, viz. the surfaces of certain foreign bodies and of his own body, and certain kinds of events happening from time to time in such bodies. And he would not have mentioned certain items which we have included, viz. various kinds of sensa. The cause of both these differences is the same, viz. the fact that the plain man mistakes what he directly apprehends in sense-perception for parts of physical objects and events in such objects. We have seen that he does not directly apprehend such particular existents, and so we have had to exclude them from our list. But we have also seen that he really is apprehending particular existents of *some* kind in sense-perception, and so we have had to introduce them into our list under the technical name of 'sensa'.

Now let us go through the list, and we shall see that, if it is exhaustive, it proves our principle. (i) Everyone would agree that normally no embodied mind but M could directly apprehend M. (ii) Everyone would agree that normally no embodied mind but M could directly apprehend any of M's experiences. (iii) Everyone would agree that normally no embodied mind but M could directly apprehend any mental image that M can directly apprehend. (iv) Everyone would agree that normally no embodied mind but M could directly apprehend the aches and pains and pressure-data and so on which arise in connexion with processes in M's body. (v) As regards extra-somatic sensa a difference of opinion might arise, but it would certainly be due to verbal confusion. A person might say: 'A noise is an extra-somatic sensum. Now we all know that M and N may both hear the same noise. So N can directly apprehend an extra-somatic sensum which is also being directly apprehended by M.' There is nothing in this argument. When M and N are correctly said to be 'hearing the same noise' *each* is directly apprehending a *different* auditory sensum. But these two auditory sensa are related in a certain characteristic way to each other, and they are manifestations of a common physical event at a remote common source. When the fact that normal sense-perception is not *really* prehensive of external objects is clearly understood and firmly grasped, and when the various verbal confusions which have arisen from its being *ostensibly* prehensive have been removed, we see that there is not the least reason to believe that, in normal life, N can ever directly apprehend any sensum which M can directly apprehend, or vice versa.

Now I think that, with the explanations which I have just given, it will be admitted that the above list includes all the various kinds of particular existents which any embodied mind, under normal

conditions, could directly apprehend. And we have now seen, with regard to each of these classes of particulars, that any member of it which *can* be directly apprehended by any one embodied mind *M cannot*, under normal conditions, be directly apprehended by any other embodied mind. And so we reach our second general principle: 'Any particular existent which can be directly apprehended by an embodied mind can be directly apprehended *only by one* such mind.' I will call this the 'Principle of the Privacy of Prehensible Particulars'.

Before going further I will make some remarks on these two principles. (i) The Unique Ownership of Experiences is in a much stronger position than the Privacy of Prehensible Particulars. Many people would say that it is self-evidently impossible that one and the same experience should literally be an experience of two minds, no matter whether the minds were embodied or disembodied, in a normal or an abnormal condition, or what not. Without committing myself to this view, I must admit that it is highly plausible. Now the Privacy of Prehensible Particulars, as a general principle, is not in the least self-evident. We reached it simply by a process of enumeration and inspection, and there is no apparent absurdity in supposing that there might be exceptions to it. As we have seen, common sense does unhesitatingly take for granted that, in normal visual perception, one and the same particular can be, and often is, directly apprehended by several embodied minds. We rejected this, not in the least because it seemed *intrinsically* absurd or impossible, but because it was impossible to reconcile it with the relevant empirical facts taken as a whole. The outcome of this comparison between the two principles is that an alleged exception to the Privacy of Prehensible Particulars has an appreciable antecedent probability, whilst an alleged exception to the Unique Ownership of Experiences has far less, if any at all.

(ii) Some people have held that images and *sensa* are themselves experiences. Many others, who have not gone so far as this, have taken a view which may be roughly expressed as follows. They have held that a mental image can exist only as a logically inseparable factor in someone's experience of imagining it, and that a *sensum* can exist only as a logically inseparable factor in someone's experience of sensing it. If either of these views were accepted, we could replace the Privacy of Prehensible Particulars by the following principle: 'No embodied mind can directly apprehend anything but itself, its own experiences, and objects which are logically inseparable factors in its own experiences.' This principle does not seem to me to have any better claim to be self-evident than the Privacy of Prehensible Particulars. And I am not convinced that either of these two views about *sensa* and images is true. So I

prefer to keep the second principle in the form in which I originally stated it.

(iii) Some people have held that, whenever a mind *has* an experience, it *directly apprehends* that experience. Others have held that, whenever a mind *has had* an experience, it *could have directly apprehended* that experience if it had attended, though it may not in fact have done so. If we accept either of these views, and combine it with the Privacy of Prehensible Particulars, the Unique Ownership of Experiences follows as a logical consequence. For suppose, if possible, that two minds, M and N, both owned a certain experience E. According to the view under discussion M could or would directly apprehend E, since E is an experience of M's. Similarly, on the view under discussion, N could or would directly apprehend E, since E is also an experience of N's. Therefore E could be directly apprehended by two different minds, which is contrary to the Privacy of Prehensible Particulars. So the supposition that E could be owned by two minds must be rejected, if the Privacy of Prehensible Particulars is to be retained and the view under discussion is to be accepted.

This result seems to me to be of logical interest rather than of practical importance. In the first place, the view that, whenever a mind has an experience, it directly apprehends that experience, seems to me obviously false. And the view that, whenever a mind has had an experience, it could have directly apprehended that experience if it had attended, seems to me quite uncertain. But, even if one or other of these doctrines were indubitable, it would still be a logical perversion to base the Unique Ownership of Experiences on it and the Privacy of Prehensible Particulars. For, as we have seen, the Unique Ownership of Experiences has some claim to be self-evident, whilst the Privacy of Prehensible Particulars has no such claim. We should therefore be basing the stronger of two propositions on the weaker. I conclude then that the two principles are best regarded as independent propositions.

(a) TELEPATHIC PREHENSION

We have now stated, explained, and commented on the two principles which are assumed by common sense to govern the region with which we are at present concerned. We can look upon telepathic cognition as involving a real or apparent breach of one or other of these principles. Any breach of the Privacy of Prehensible Particulars would, *ipso facto*, be an instance of telepathic cognition. To be more precise, it would be an instance of what I will call 'Telepathic Prehension'. Under this heading would come the following five possible cases. (i) One mind directly apprehending another mind as a unit. (ii) One mind directly apprehending an

experience which is occurring in another mind. (iii) One mind directly apprehending a mental image which is being imaged by another mind. (iv) One mind directly apprehending a somatic sensum which is being sensed by another mind and is the manifestation of a process going on in the body which that other mind animates. (v) One mind directly apprehending a visual, tactual, or auditory sensum which is being sensed by another mind in seeing, touching, or hearing an external object. Telepathic prehension of the first kind seems to be claimed for Mrs. Willett (see Lord Balfour's paper, *Proc. S.P.R.*, Part 140, pp. 90-4). There are plenty of cases which look, *prima facie*, as if they were instances of the four remaining kinds. Are they really so?

In considering this question the first point to notice is the following. A breach of the Unique Ownership of Experiences would not be *ipso facto* an instance of telepathic prehension, for in itself it would not be an instance of *cognition* at all. It would best be described as an instance of 'Intermental Confluence'. But, if intermental confluence were to take place, telepathic prehension would almost certainly follow as an immediate consequence of it. Suppose, e.g. that, through mental confluence, N's experience of sensing a certain sensum or of imaging a certain mental image were also an experience of M's. Then M would be sensing or imaging the very same sensum or image which N is sensing or imaging. Now sensing and imaging are instances of directly apprehending. So M would be directly apprehending a sensum which N is sensing or an image which N is imaging. And, of course, the converse would also be true. So, if there were intermental confluence of this kind between M and N, there would necessarily be telepathic prehension of sensa or images by *both* M and N. This particular example can at once be generalized. If any experience which is a direct apprehension of a particular were, through mental confluence, owned by both M and N, M would be directly apprehending something which N is directly apprehending, and conversely.

We have seen, however, that intermental confluence would be ruled out by many people as self-evidently impossible. So we may now put the following question. Supposing that we rule out intermental confluence, is there any need to assume that telepathic prehension occurs? It seems to me quite unnecessary to assume this in order to account for successful experimental results in which one person conveys supernormally to another figures which he sees or draws, images which he calls up and fixes, or bodily feelings which he is experiencing. All that we need to suppose here is a particular form of telepathic *interaction*. It is enough to suppose that the occurrence of a certain sensation or imagination or bodily feeling in M's mind causally determines in N's mind the occurrence of a

sensation with a similar sensum, or of an imagination with a similar image, or of a bodily feeling with a similar quality and feeling-tone. In experiments it may generally be assumed that N knows that it is M, and no one else, who is trying to convey an impression to him. And it may generally be assumed that he knows roughly *at what time* M is going to try the experiment. Suppose that, at about the agreed time, N suddenly has a sensation or bodily feeling or becomes aware of an image. Suppose that there is no noticeable feature in N's surroundings at the time, or in his immediately previous train of thought, which would supply an obvious normal explanation for the occurrence of just that experience at just that moment. Then he will naturally suspect that the experience is caused by M, whom he knows to be experimenting at the time. So there is no need whatever to assume that N has any telepathic prehension of M or of M's experiences, however successful such experiments may be.

So far as I can see, it is quite possible that each of us may be often, or even continuously, influenced telepathically by other minds, and yet this fact might always have escaped notice. Suppose that an event in M's mind does in fact determine telepathically an event in N's mind. N will have no reason to regard this as an instance of telepathic interaction unless all the following conditions are fulfilled. (i) The effect on N must take the form of an experience which he can and does notice. Now the effect might equally well be a change in his mental dispositions, or be an experience which he does not or cannot notice.

(ii) This experience must be so discontinuous with his other contemporary and immediately past experiences and with his usual trains of association that he is surprised by it and is led to suspect that it is not caused normally. Now this condition would seldom be fulfilled. Very often I suddenly image an image, visual or auditory, which seems quite disconnected with my other contemporary and immediately past experiences and with my usual trains of association. But even I, who am professionally interested in such things, tend to dismiss it as just one more unexplained oddity in the workings of my mind. Most people are occupied for most of their lives in practical dealings with other people and things; so an experience of theirs would have to be very odd indeed before they would seriously raise the question whether it was or was not caused normally. Moreover, if an experience in N's mind be telepathically caused by an event in M's mind, the event in M's mind would never be the *complete* immediate cause of it. It would at most be one of the immediate necessary conditions. Another, and equally necessary, factor in the total immediate cause of this experience of N's would be the permanent dispositions, the acquired associa-

tions, and the contemporary or immediately past experiences of N himself. There is therefore no reason to believe that most telepathically caused experiences would be so outstanding and discontinuous as to attract the special attention of the experient.

(iii) Even if N notices this experience with surprise, and is led to wonder whether it may not be telepathically caused, he can get no further unless he can discover that, at about the same time, a certain other person was having an experience which was specially closely related to his own. Now this condition could not be fulfilled unless all the following conditions were also fulfilled. (a) M, the person who is in fact the telepathic agent in this transaction, would need to be known to N, the telepathic patient, or they would need to have common friends. Now it is obvious that M and N might be complete strangers. (b) The event in M's mind which telepathically determined this experience in N's mind would have to be an experience which M noticed and could describe to N or to their mutual friends. Now the event might not have been an experience at all; it might have been a change in the dispositional structure of M's mind. Or the event might have been an experience which M did not or could not notice. (c) There would have to be some specially intimate observable relation between M's experience and N's experience, which would make it reasonable to single out the former as a factor in the total cause of the latter. The only two relations that I can think of in this connexion are likeness and the relation of fulfilment to intention. The first would hold if the two experiences were alike in quality or if they were prehensions of similar objects. The second would hold if M's experience were that of intending to produce in N an experience of a certain kind, and if N's contemporary experience were in fact of the kind intended. Plainly there is not the least reason to suppose that either of these very special relations would hold as a rule between the telepathic cause-factor and the experience which it co-operates in producing. An effect may be extremely unlike every one of the factors in its immediate total cause. And most telepathic interaction may be entirely unintentional.

The upshot of the above discussion is this. If telepathic interaction takes place at all, it may well be a very common occurrence. But it will be noticeable only when a large number of independent and rather special conditions are simultaneously fulfilled. And, when these conditions are fulfilled, so that it does become noticeable, the experience which is telepathically produced in N will be very liable to be mistaken for a telepathic prehension by N of that experience of M's which is its telepathic causal determinant. It is easy to find analogies in the physical sciences to the situation which I have just shown to be possible about telepathy. Consider, e.g.

ordinary magnetic forces, and the history of our knowledge of them. Such forces occur whenever electric charges are moving or electric forces are varying, and they pervade all space at all times and are profoundly important factors in the physical world. Yet they would hardly have been discovered had it not been for the happy accidents that the earth contains a good deal of the one element, viz. iron, which is very strongly susceptible to magnetic forces; that it contains natural magnets, viz. lodestones; and that it is itself a natural magnet. For centuries magnetism seemed to be a freak of nature which occurred exclusively in connexion with certain very special kinds of matter. Yet in fact it was all the time operating everywhere. And the very special characteristics which it displays in connexion with iron and with permanent magnets, masked its real nature almost as much as they revealed it.

I have now said all that seems necessary in support of my contention that experiments in telepathy, however successful they may be, would prove only telepathic *interaction*, of one or other of the three kinds which we distinguish as theoretically possible. They would not force us to abandon the Privacy of Prehensible Particulars and to postulate telepathic prehension. It remains to consider two other kinds of ostensibly telepathic phenomena, for which there is ample evidence, some of which is of excellent quality. The first is spontaneous telepathy, such as is reported in *Phantasms of the Living*. The second is the supernormal knowledge which mediums often display with regard to facts known to the sitter or to some other living person.

A good many cases of spontaneous telepathy can be regarded as similar in principle to the cases of experimental telepathy which we have already considered. Suppose that M, sitting in his dining-room in a mood of intense depression, eventually takes poison, suffers great bodily pain, and dies. Suppose that there arise in N's mind, through telepathic interaction, visual sensations or visual imaginations very much like those which M is experiencing through normal visual perception of his surroundings. If N is familiar with M's dining-room, his telepathically induced visual experiences will naturally make him think of that room and of M. Suppose next that there arises in N's mind, through telepathic interaction, a feeling of intense depression very much like that which M is experiencing because of illness, financial trouble, or some other normal cause. It will be natural for N to connect together these two simultaneous abnormal experiences, and to suspect that there is something seriously wrong with M. Suppose finally that there arises in N's mind, through telepathic interaction, a sensation of intense bodily pain very much like that which M is experiencing in consequence of the action of the poison on his body. It

will be natural for N to assume that M must be very ill and perhaps dying. If N should be asleep or in a dreamy state when the telepathic interaction takes place, it is extremely likely that the data supplied, and the normal associations which they excite, will be supplemented by a great deal of imagery. The whole thing may then be worked up into a vivid dream or waking hallucination, with the gaps filled in and the inconsistencies smoothed out correctly or incorrectly. No kind of telepathic prehension needs to be postulated here. Nothing need be assumed except the special kind of telepathic interaction, which we postulated to explain the experimental results, together with the normal workings of preformed associations in N's mind.

(b) TELEPATHIC DISCURSIVE COGNITION

It is doubtful whether all well-attested cases of spontaneous telepathy can be dealt with on these lines. And it is fairly certain that this cannot be the right explanation of the supernormal knowledge which mediums often display with regard to facts known only to the sitter or to some other living person. We may best approach the subject in the following way. There are at least two fundamentally different, though intimately connected, kinds of normal cognition, viz. prehensive and discursive. So far we have considered only the possibility of telepathic *prehension*, and we have found no direct evidence for it. Now it looks as if the mediumistic cases, and some of the spontaneous telepathy cases, might involve telepathic *discursive* cognition. I will now explain these statements and consider whether there is any reason to postulate such cognition.

The distinction between prehensive and discursive cognition is roughly identical with the familiar distinction between 'directly apprehending' and 'thinking about'. It is illustrated, e.g. by the difference between actually hearing a set of noises which form a tune and knowing or believing that this tune consists of a series of noises of certain pitches and durations following each other in a certain order. We may, of course, have discursive cognition about a particular which we are also directly apprehending; and the ground of our discursive cognition about it may be what is manifested to us in our prehension of it. But we can have discursive cognition about objects which we are not at the time prehending, about objects which we never have prehended, and about objects which we never couldprehend. We can also have an experience which would properly be described as 'thinking of an x', e.g. a dragon, or 'thinking of the y', e.g. the King of the Fairies, although there may be nothing answering to the description 'an x' or the description 'the y'. But it would be impossible to have an experience which would properly be described as 'directly apprehending an x' or

'directly apprehending the y' unless there were something answering to the description 'an x' or to the description 'the y', respectively.

Discursive cognition consists in either *knowing a fact* or taking up one of a number of alternative *cognitive attitudes* towards a *proposition* which may be either true or false. Among these cognitive attitudes are included believing, disbelieving, opining, uncritically accepting, supposing, and probably many others. All such cognitive attitudes towards a proposition equally presuppose a more fundamental cognitive experience which may be called 'entertaining' the proposition. One and the same person may entertain the same proposition on many different occasions, and he may take towards it the same or different cognitive attitudes on different occasions. At one time he may doubt it, at another he may believe it, and so on. Again, several people may entertain one and the same proposition on the same occasion, and they may take various cognitive attitudes towards it. Smith and Jones may both believe it, whilst Brown doubts it and Robinson disbelieves it. (In saying these things I do not mean to imply that there is a peculiar class of entities called 'propositions'. I think it most likely that all the statements which I have just been making could be restated without introducing the word 'proposition' or any synonym for it. But the translations would be extremely complicated and verbose. The use of the word 'proposition' enables me to express in a reasonably simple verbal form what everyone admits to be facts about discursive cognition. No further excuse is needed for continuing to use it.)

There is one other general fact of very great importance which we must mention before we can profitably consider telepathic discursive cognition. At any moment far the greater part of any man's 'knowledge' or 'beliefs' or 'opinions' certainly does not take the form of *experiences* of knowing such and such facts or believing or opining such and such propositions. The truth about him is that he *would* have these experiences *if* he chose to direct his attention in a certain way, or *if* he were to be suitably stimulated. We may express this by saying that, at every moment of our lives, much the greater part of our knowledge, beliefs, and opinions consist of relatively permanent *dispositions* to know certain facts or to believe or opine certain propositions. It is always assumed that, to every such relatively permanent cognitive disposition, there must correspond some relatively permanent *actual existent*. This is generally supposed to be some actual modification of the structure of our minds or our brains, or to be some actual persistent unobservable process in our minds or our brains.

It is well to recognize that we know nothing at all about the

intrinsic nature of the actual existents which are supposed to correspond to our cognitive dispositions. We do not know whether they are persistent structural features or persistent unobservable processes. And we do not know whether they are modifications of our minds or our brains or of both or of neither. All that we know of them is that they are produced and modified by our actual experiences, and that they are important factors in producing and modifying our experiences. There is very good reason to believe that the actual existents which correspond to the various dispositions of various kinds of *matter* are special peculiarities in the spatial arrangement and the motions of the ultra-microscopic particles of which bodies are composed. But, unless we assume that the actual existents which correspond to *mental* dispositions are themselves purely material, we cannot suppose that they are spatial arrangements or modes of motion of ultra-microscopic particles. Now it is extremely difficult to form any positive conception of purely *mental* structures or of non-introspectible *mental* processes which could plausibly be supposed to correspond to our mental dispositions. So we are between the horns of the following dilemma. If we put the correlates of all mental dispositions into the brain, we get a theory which is familiar and intelligible in outline but incredible when we come to consider it in detail. If, on the other hand, we postulate mental structures and non-introspectible mental processes as the actual correlates of our mental dispositions, we have no clear idea of what we are postulating and we run the risk of paying ourselves with words.

We are now in readiness to consider telepathic discursive cognition. Suppose that M knows the fact F or entertains the proposition P. The only normal way in which M's knowledge of F or his entertaining of P can cause another mind N to think of this fact or to entertain this proposition is the following. M must express the fact or the proposition by uttering or writing a sentence which expresses it in accordance with some conventional system of symbolization. N must hear or see or in some other way perceive with his senses either this spoken or written sentence itself or some reproduction of it, e.g. on a gramophone-record or in a book. Of course profound physical transformations may take place during the process which intervenes between M's utterance and the occurrence of the reproduction of it which N perceives; but a fundamental identity of structure must be preserved throughout, though it may be realized in very different media at different stages. This is well illustrated by telephonic or wireless transmission of speech. Next, the sentence which N eventually perceives must mean for him, in accordance with some system of conventional symbolization with which he is familiar, the same fact or proposition which M ex-

pressed by his original sentence. If N perceives M's sentence itself, it is essential that he should be familiar with the system of symbolic conventions which M uses. If N perceives only a reproduction of M's original sentence, this condition need not be fulfilled, but another will have to be substituted for it. M might express himself in French; and N, who knows no French, might still be caused to entertain the proposition which M was entertaining provided that N perceives a sentence which is an English translation of M's sentence. But, in that case, it is essential that there should have been a third person T, familiar with both M's and N's systems of conventional symbolization, who made a translation from one set of symbols to the other.

The following remarks are worth making at this stage. (i) M's knowledge of F or his entertainment of P may be an essential factor in causing N to think of F or to entertain P; and yet N may have no knowledge or thought of M or of M's cognitions. If N perceives and understands a sentence, and if he cares to reflect on the matter, he will indeed recognize that some mind or other must have entertained the proposition which this sentence means and must have expressed it in a sentence. And he will recognize that this event in another mind must be a causal ancestor of his own entertainment of this proposition. But N need not know or believe anything more definite about this other mind. (ii) Suppose that N perceives and understands a certain sentence, and also knows that it was uttered by M or is a reproduction of one of M's utterances. N will then know, or have very strong reason to believe, that the proposition which he has been led to entertain has also been *entertained* by M. But he may know nothing about M's *cognitive attitude* towards this proposition. If N has any beliefs on this subject, they may well be mistaken; as is abundantly proved by the occurrence of successful lies and political propaganda, which are taken by the duped hearer to express the *knowledge* or the *beliefs* of the lying speaker.

It is now easy to define the phrase 'Telepathically Induced Discursive Cognition'. Suppose that a certain mind N thinks of a fact F or entertains a proposition P at a certain moment. Suppose that N would not have done this unless a certain other contemporary mind M were knowing this fact or entertaining this proposition. Lastly, suppose that M's knowledge of F or his entertaining of P does not bring about N's thought of F or his entertainment of P by the normal process which we have just described. Either M never expresses the fact or the proposition in a sentence, or N never perceives the sentence or any reproduction of it, or N cannot understand the sentence or the reproduction of it which he perceives. If these conditions, positive and negative, were fulfilled, we should say that N was having telepathically induced discursive cognition

of this fact or this proposition. And we should say that he was deriving this cognition telepathically from M's mind. Now it looks as if telepathically induced discursive cognition, in the sense just defined, were involved in some cases of spontaneous telepathy between normal people and in many cases of trance-mediumship. Can we say anything further about it?

(i) I suspect that some people have at the back of their minds a certain tacit assumption about the *modus operandi* of telepathically induced discursive cognition. It may be stated as follows. Suppose that N is cognizing a fact or a proposition, and that this cognition of N's is derived telepathically from M's mind. Then, it is assumed, N must be telepathically *prehending* M's *cognition of* this fact or proposition. And in so doing, it is further assumed, N will *ipso facto* be himself cognizing the fact or proposition which M is cognizing. To sum up the theory in a sentence: 'N's telepathically induced cognition of *what M discursively cognizes* depends upon N's telepathic prehension of *M's experience of cognizing*.'

I should very much hesitate to accept this theory. In the first place, we have so far found no reason to admit the occurrence of prehensive cognition by one mind of experiences belonging to another mind. Secondly, I would question the assumption that, if N directly apprehended M's experience of knowing the fact F or cognizing the proposition P, he would *ipso facto* be himself cognizing F. or P. It is, no doubt, true that a person could not directly apprehend *his own* experience of knowing a fact F or cognizing a proposition P unless he were knowing F or cognizing P. For, unless he were knowing F or cognizing P, there would be nothing answering to the description 'his experience of knowing F or cognizing P'. And, unless there were an experience answering to this description, he could not directly apprehend such an experience. But this argument will not lead to the desired conclusion if we apply it to N's prehension of M's cognitive experiences. The only conclusion to which it leads in this case is quite trivial. The conclusion is merely that, if N directly apprehends M's experience of knowing F or cognizing P, then M must be knowing F or cognizing P. The desired conclusion is that N must be thinking of F or entertaining P. And this certainly does not follow.

Now, if the fallacy which I have just indicated is avoided, there seems to be no reason to accept the assumption under discussion. Why should not N directly apprehend an event, which is *in fact* M's experience of knowing F or cognizing P, without realizing that the event which he is apprehending answers to this description? And, if this is possible, why should N *ipso facto* think of F or entertain P?

It might be plausible to maintain that N could not directly

apprehend an experience of M's without *ipso facto* being aware of its *psychological quality*, e.g. without apprehending it as an experience of knowing or as one of believing or as one of doubting, as the case might be. But it is not plausible to maintain that N could not directly apprehend an experience of M's without *ipso facto* being aware of its *epistemological object*, i.e. of the fact of which it is a knowing or of the proposition of which it is a believing or a doubting. Yet, when telepathy takes place from M to N, the result is usually that N cognizes a fact or proposition which M is cognizing, but remains unaware of the psychological quality of M's cognitive experience. So there seems to be very little to be said in favour of the theory which we have been discussing.

Before we leave this theory there is one more remark to be made about it. If it were acceptable on other grounds, it could be applied to explain the apparently telepathic prehension by N of images which M is imaging or of sensa which M is sensing. The explanation would, of course, take the following form. N, it would be said, telepathically prehends M's experience of imaging the image I or sensing the sensum S. In doing this, it would be assumed, N *ipso facto* prehends the image I or the sensum S which is the object of M's experience. The general principle assumed is that, in prehending any experience which is itself a prehension of an object, one would be *ipso facto* prehending its object. I see no reason to accept this principle; and I have already tried to show that the results of experimental telepathy can be interpreted in quite a different way, which involves telepathic interaction but does not involve telepathic cognition.

(ii) I think that certain cases of telepathically induced discursive cognition could be explained on the same lines as the simple cases of experimental telepathy. Suppose that M knows the fact F or cognizes the proposition P. Although he does not utter or write a sentence which would express F or P in his own language, he may image a series of auditory or visual images corresponding to such a sentence. Certainly when I am thinking I often find myself doing this. Suppose now that a series of visual or auditory images, similar to these, were produced by telepathic interaction and imaged by another mind N. If N knew the language in which these image-sentences are composed, he would automatically entertain the proposition or think of the fact which they express in that language. He would thus have been telepathically induced to entertain the proposition which M is cognizing or to think of the fact which M is knowing.

It must be noticed that this theory presupposes that N knows the language in which M would express himself if he were to speak or to write. It therefore could not explain how an Englishman

could telepathically induce in a Frenchman, who knew no English, a cognition of a fact which the Englishman knows or a proposition which he cognizes. I do not know whether there is good evidence of telepathically induced discursive cognition in such cases. It would be a very important subject for experimental investigation.

(iii) Even if the explanation just proposed should be true of some cases of telepathically induced discursive cognition, I do not think that it could possibly cover all or most of them. In most cases it seems certain that the person from whom the cognition was telepathically derived was not thinking at the time of the fact or proposition concerned. And, if he was not thinking of it, he was *a fortiori* not imaging a set of spoken or written words which would express it in his own language. When N derives telepathically from M a cognition of a fact which M knows or a proposition which M believes, it is not usually the case that M is actually having an experience of knowing the fact or believing the proposition. Usually M's knowledge or belief is at the time purely dispositional, as most of our knowledge and our beliefs are at every moment. It is possible, of course, to evade this contention by saying that M must have been 'unconsciously' having an actual experience of knowing the fact or of believing the proposition at the time when the cognition is telepathically induced in N. This, however, would be a wholly gratuitous assumption, for which there is no independent evidence, and I shall ignore it.

The position, then, seems to be this. Suppose that N telepathically derives from M a cognition of a fact F, which M knows, or of a proposition P, which M believes. Then the operative factor on M's side will not as a rule be any actual cognitive experience which M is having at the time. The operative factor on M's side will usually be what we may call his 'potentiality of knowing F' or his 'potentiality of believing P'. By M's 'potentiality of knowing F' I mean that persistent modification of structure or process, whatever it may be, which ensures that, whenever M is suitably stimulated by a reminder, he will have an actual experience of knowing F. By M's 'potentiality of believing P' I mean that persistent modification of structure or process, whatever it may be, which ensures that, whenever M is suitably stimulated by a reminder, he will have an actual experience of believing P. I have already said that we know nothing whatever about the intrinsic nature or location of these assumed persistent modifications. We know them only as relatively permanent *after-effects* of actual experiences, and as relatively permanent *cause-factors* in producing and modifying subsequent experiences. Let us call them 'Experientially Initiated Potentialities of Experience'.

Now the normal rule is this. Any such potentiality which is a

cause-factor in producing or modifying *M's later experiences* has been acquired from *M's earlier experiences*. I wish to point out that this is merely an empirical rule based on normal experience. Since we know nothing about the intrinsic nature or location of experientially initiated potentialities of experience, we cannot possibly see any kind of necessity in this or any other rule about them. It is logically possible that a potentiality which is an after-effect of *M's* past experiences should be a cause-factor in producing or modifying, not only *M's* future experiences, but also those of *N*. Many cases of telepathically induced discursive cognition seem to suggest that this logical possibility is in fact sometimes realized.

Let us begin by considering normal thinking. Here, as we have said, the only experientially initiated potentialities which affect a person's later experiences are those which were initiated by *his own* earlier experiences. In low-grade thinking, such as day-dreaming, it would seem that some one potentiality is activated by some very contingent experience of the thinker, and that this then activates another, and this in turn another, and so on, in an almost automatic way dependent on association by contiguity, similarity, etc. The result is a series of thoughts or images which have very little logical interconnexion; though the thinker himself, if he reflected on them, or a psychologist, if he performed a psycho-analysis, might be able to conjecture why the experiences had followed each other in this particular order. If, on the other hand, the person is actively pursuing a directed train of thought on some definite problem, those potentialities which would give rise to experiences relevant to the problem will tend to be stimulated and those which would give rise to experiences irrelevant to the problem will tend to be kept quiet. Even here the potentiality which would give rise to an experience highly relevant at a certain stage in the process often fails to be activated at the appropriate moment. And potentialities which give rise to irrelevant or misleading experiences often do get activated. Even when a process of thinking, directed to solving a certain problem, is eventually successful, the thoughts which are the stages in this process seldom arise in their proper logical order. The right logical order usually comes as a result of retrospective reflexion on the process by the thinker, followed by an act of rearrangement.

The point which I want to emphasize now is the following. When normal directed thinking is contrasted with normal low-grade thinking, it may fairly be called a 'voluntary' process. And it may fairly be said that the thinker 'deliberately selects', out of the mass of potentialities of experience which his past experiences have initiated, those which would give rise to relevant experiences if they were stimulated. But it is most important not to be de-

ceived by such phrases. We must not imagine that the thinker *perceives* the various potentialities of experience, as a man might perceive a lot of ties and socks and shoes and pullovers in his bedroom, and then *deliberately activates a certain selection from them*, as a man might deliberately put on a certain tie, a certain pair of socks, a certain pair of shoes, and a certain pullover, in order to produce a certain colour scheme. The following analogy may make the fallacy quite plain. When the process of constructing a machine with one's hands is contrasted with blinking or jerking one's knee, it may fairly be called a 'voluntary' process. And it may fairly be said that the agent 'deliberately selects', out of a mass of potentialities of movement derived from his past bodily actions, those which would give rise to the relevant overt movements if stimulated. But he certainly does not *perceive* his own motor-nerves and muscles, select certain of the former, and decide to send such and such nervous impulses down the former in order to activate the latter in such a way as to make his fingers move as he wants them to do. He is perceiving and thinking of nothing but his hands and the materials with which he is working. He is desiring nothing but to make certain complicated movements with his hands against the resistance of the materials. This *automatically*, and in ways utterly unknown to him, sets up unfelt processes in unperceived nerves. And, in the main, these are in fact the appropriate processes in the appropriate nerves; since, in the main, the expected and desired overt movements result. To imagine that a thinker *literally* selects and *deliberately* activates those potentialities of experience which are relevant to the problem that he is trying to solve is like imagining that a manual worker *literally* contemplates his own brain and nervous system as if it were a complicated switchboard and *deliberately* presses such and such buttons. The thinker or the manual worker wills that a certain process of thought or bodily action shall take place; and automatically, in ways unknown to him, his volition initiates and sustains, among unobservable entities, unobservable processes which do in fact tend to bring about the desired process of thought or bodily action.

I have insisted upon this point about normal thinking because it has an important bearing upon telepathically induced thinking. It seems to me that there are two ways in which we are liable to make needless difficulties for ourselves in connexion with this subject.

- (i) We tacitly assume that potentialities of experience initiated by M's experiences must be located in M's brain or in M's mind; and similarly, *mutatis mutandis*, for N and for each other individual.
- (ii) We tacitly assume that, when a certain set of coexistent potentialities of experience are activated in such an order as to give rise to a certain coherent train of thought in M's mind, M must have

contemplated a whole mass of coexistent potentialities and must have deliberately selected and activated this particular sub-group. Then we are faced with telepathy induced discursive cognition. We thereupon raise such questions as these. How can N contemplate potentialities of experience which are located in M's brain or in M's mind? How can N select from these just that sub-group which is relevant to his own problem at the moment? How can N activate this sub-group located in M's mind or brain? And, if N does this, why are the corresponding experiences produced in N's mind and not in M's?

Now these difficulties are at least lightened by the two following considerations. (i) Even if the potentialities of experience which are initiated by M's experiences are located in M's mind or M's brain, there is not the least reason to suppose that N would have to contemplate them and deliberately activate a certain selection of them. For we have seen that this is certainly not the way in which the set of potentialities which are relevant to a normal train of thought are activated by the mind in which that train of thought occurs.

(ii) We have very little ground for assuming that the potentialities of experience which are initiated by M's experiences are located in M's mind or in M's brain. If I say that an *actual experience* is located in M's mind, I know what I mean. I mean that it is one of M's experiences, and I know perfectly well what it is for a certain experience to belong to, or occur in, a certain mind. But *experientially initiated potentialities of experience*, whatever they may be, are certainly not themselves experiences. When I say that a certain acquired potentiality of experience is located in M's *mind* this can only be an abbreviated way of saying that it was produced by a past experience of M's and that it is a cause-factor in producing or modifying later experiences of M's. If the statement means anything more than this, I have no idea what it means. If, on the other hand, I say that it is located in M's *brain*, I must mean that it is a more or less persistent modification in the spatial arrangement or the movements of the ultra-microscopic particles in some part of M's brain. Now there are well-known empirical facts about the loss of a person's normal memories through injuries to his brain and his subsequent recovery of these memories which make it very difficult to accept this view of experientially initiated potentialities of experience. So the statement that potentialities of experience initiated by M's experiences are located in M's *mind* seems to be either metaphorical or meaningless; and the statement that they are located in his *brain*, if taken as the whole truth, seems to be difficult to reconcile with admitted facts about the effects of brain-injuries on normal experience.

We must therefore consider seriously the possibility that each person's experiences initiate more or less permanent modifications of structure or process in something which is neither his mind nor his brain. There is no reason to suppose that this Substratum would be anything to which possessive adjectives, such as 'mine' and 'yours' and 'his' could properly be applied, as they can be to minds and to animated bodies. The situation would be this. The modifications which are produced in this common Substratum by M's experiences *normally* affect only the subsequent experiences of M; those which are produced in it by N's experiences *normally* affect only the subsequent experiences of N. But in certain cases this normal causal 'self-confinement', as we might call it, breaks down. Modifications which have been produced in the Substratum by certain of M's past experiences are activated by N's present experiences or interests, and they become cause-factors in producing or modifying N's later experiences.

As we know nothing about the intrinsic nature of experientially initiated potentialities of experience, we cannot say anything definite about the intrinsic nature of the common Substratum of which we have assumed them to be modifications. As there is no reason whatever to think that such potentialities of experience are, or could be, themselves experiences, there is no reason whatever to suppose that the Substratum is a mind. On the other hand, it could hardly be any particular finite body. It does not seem impossible that it should be some kind of extended pervasive medium, capable of receiving and retaining modifications of local structure or internal motion. But I do not think that we have at present any adequate data for further speculations about its nature.

MR. DUNNE'S THEORY OF TIME

I WANT to state the theory in *An Experiment with Time* as clearly as I can in my own way; then to consider its application to precognition; and then to consider whether there are any other grounds for accepting it beside its capacity to account for the possibility of precognition. Mr. Dunne himself holds that the theory is required quite independently of explaining precognition. He also holds that the facts which demand a serial theory of time require that the series shall be infinite. Both these contentions might be mistaken, and yet Mr. Dunne might be right to the extent that it is necessary to assume *a series of at least two terms for the special purpose of explaining precognition.*

It seems clear from Chapter XIX of *An Experiment with Time* that Mr. Dunne starts from a suggestion made by Hinton in his book *The Fourth Dimension*. It will therefore be well to explain Hinton's suggestion before trying to state Mr. Dunne's theory. But there is one preliminary step which it will be worth while to take before dealing with Hinton's suggestion. We are going to be concerned with the notion of 'spaces' or 'spatial manifolds' of more than three dimensions; it will therefore be wise to begin by defining certain terms and stating certain elementary facts which are constantly needed in this connexion.

Manifolds of 'n' Dimensions

A spatial manifold is of n dimensions if exactly n independent variables have to be fixed in order to determine a point (i.e. a completely determinate position) in it. Thus, in a spatial manifold of n dimensions, we shall need n independent simultaneous equations to determine a point. And a point is something which, being completely determinate, has 'zero degrees of freedom'.

Now suppose we were given $n-1$ independent simultaneous equations. These would leave *one* degree of freedom in a n -fold. They would therefore represent a *line* (straight or tortuous) in that n -fold. We will call a line in a n -fold a '(1, n)-fold'. Suppose we were given $n-2$ independent simultaneous equations. These would leave *two* degrees of freedom in a n -fold. They would therefore represent a *surface* (flat or curved) in the n -fold. We will call a sur-

face in a n -fold a '(2, n)-fold'. In general, m independent simultaneous equations would leave $n-m$ degrees of freedom in a n -fold, and so would determine a set of points in the n -fold which we will call a '($n-m, n$)-fold'. Plainly a (0, n)-fold is a *point* in a n -fold; and a (n, n)-fold is identical with the n -fold itself. Conversely a (m, n)-fold is a set of points in a n -fold determined by $n-m$ independent simultaneous equations.

In a three-fold a *point* is a (0,3)-fold, and requires *three* independent equations; a *line* is a (1,3)-fold, and requires *two* independent equations; a *surface* is a (2,3)-fold, and requires *one* equation. The three-fold itself is a (3,3)-fold.

In a four-fold a *point* is a (0,4)-fold, and requires *four* independent equations; a *line* is a (1,4)-fold, and requires *three* independent equations; a *surface* is a (2,4)-fold, and requires *two* independent equations. There is also a fourth kind of set of points here, viz. a (3,4)-fold, which requires *one* equation. The four-fold itself is a (4,4)-fold. And so on for any number of dimensions.

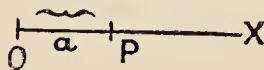
Now it is useful to look at this from another point of view. We can start with a fixed number of independent simultaneous equations, and consider what kind of manifold these equations will determine in manifolds of various dimensions. Thus:

One equation determines a *point* in a *one-fold*, a *line* in a *two-fold*, a *surface* in a *three-fold*, a (3,4)-fold in a *four-fold*, and a ($n-1, n$)-fold in a n -fold.

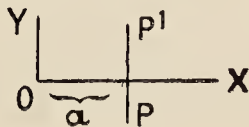
Two independent equations cannot occur in connexion with a *one-fold*; they determine a *point* in a *two-fold*, a *line* in a *three-fold*, a *surface* in a *four-fold*, a (3,5)-fold in a *five-fold*, and a ($n-2, n$)-fold in a n -fold.

Three independent equations cannot occur in connexion with either a *one-fold* or a *two-fold*; they determine a *point* in a *three-fold*, a *line* in a *four-fold*, a *surface* in a *five-fold*, a (3,6)-fold in a *six-fold*, and a ($n-3, n$)-fold in a n -fold. And so on.

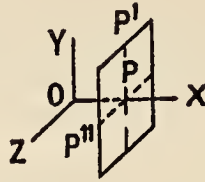
It remains to consider one important consequence of this which we shall need in discussing Mr. Dunne's theory. Take a single equation, involving only one variable, e.g. $x=a$. In a one-fold this represents a *point* at distance a from the origin along the only axis.



In a two-fold it represents a *straight line* at right angles to the X -axis, which cuts the latter at $x=a$.

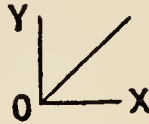


In a three-fold it represents a *plane* at right angles to the X-axis, which cuts the latter at $x=a$.

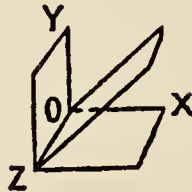


In a four-fold it represents a (3,4)-fold at right angles to the X-axis, cutting the latter at $x=a$. And so on.

Now consider a single equation involving two variables, e.g. $x=y$. In the case of one-fold this is meaningless. In the case of a two-fold it represents a *straight line* bisecting the angle between the X and the Y axis.



In the case of a three-fold it represents the *plane* which arises from drawing through every point in the previous straight line a straight line parallel to the Z-axis. This plane bisects the angle between the planes ZOY and ZOZ and contains the Z-axis.



In the case of a four-fold it represents the (3,4)-fold which arises from drawing through every point in the previous plane a straight line parallel to the U-axis. And so on.

Exactly similar remarks apply to curves. Thus the equation $x^2+y^2=a^2$ represents a *circle* of radius a with the origin as centre in a two-fold. In a three-fold it represents the *cylindrical surface* obtained by drawing through every point in the circle a straight line parallel to the Z-axis. In a four-fold it represents the (3,4)-fold obtained by drawing through every point in this cylindrical surface a straight line parallel to the U-axis. And so on.

Hinton's Suggestion

Suppose that there were a *material thread* at rest in a *plane*, i.e. a material (1,2)-fold at rest in a two-fold. Suppose that a certain *straight line* moved in this plane with a uniform velocity at right

angles to itself. Provided that the thread always makes an angle of less than 90° with the direction in which the moving line travels, the moving line will cut the thread in a *point* at each moment and in a different point at each different moment. Suppose that there were an observer whose field of observation at any moment is confined to the contents of the moving line at that moment. Instead of perceiving a *stationary thread* he would perceive a *moving particle* occupying various positions in the various lines which constitute his successive fields. This will be obvious from Fig. 1.

If there were a number of such linear threads in the plane there would be an equal number of material particles observed in each field. It is evident that the velocities of these particles, as observed by this observer, would be completely determined by (a) the velocity of the moving line, which we have assumed to be *uniform*, and (b) the purely *geometrical* properties of the threads. Suppose that the equation of a thread is $y=f(x)$. Let the velocity of the

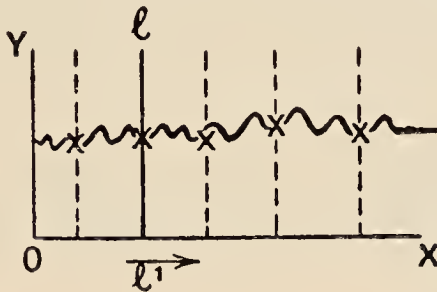


FIG. 1

moving line be c along the X-axis. Then the observed velocity of the corresponding particle will be at any moment dy/dt . This = $(dy/dx) (dx/dt)$, i.e. $c(dy/dx)$.

We can now extend this as follows. Suppose that we now have a tortuous thread in a *three-dimensional space*, i.e. a (1,3)-fold at rest in a three-fold. Suppose that a certain *plane* moves at right angles to itself in this three-fold with uniform velocity. At any moment it will cut the thread at a *point*. Suppose that there is an observer whose field of observation at any moment is confined to the contents of this moving plane at that moment. Instead of perceiving the *stationary thread*, as such, he will perceive a *moving particle* occupying various positions in the various planes which constitute his successive fields (see Fig. 2).

If there were a number of such threads in the three-fold, there would be an equal number of material particles observed in each field. The velocities of these particles, as observed by this observer, would be completely determined, both in magnitude and direction in the field, by (a) the velocity of the moving plane, which we have

assumed to be *uniform*, and (b) the purely *geometrical* properties of the threads. Suppose that the equations of a thread are $x=f(z)$ and $y=g(z)$. (It will need two equations because it is now a $(1,3)$ -fold.) And suppose that the moving plane moves along the Z-axis with velocity c . Then the observed velocity of the particle along the X-axis of the observer's field will be dx/dt , which $=(dx/dz)(dz/dt)$, and therefore $=c(dx/dz)$. Its observed velocity along the observer's Y-axis will be dy/dt , which $=c(dy/dz)$.

We have now to extend this one step further. We now imagine a tortuous material thread in a four-fold, i.e. a $(1,4)$ -fold. Suppose that a certain $(3,4)$ -fold moves at right angles to itself with uniform velocity in this four-fold. At any moment it will cut the thread in a *point*. For the $(1,4)$ -fold requires three independent equations, and the $(3,4)$ -fold requires one equation. So their intersection is represented by four simultaneous equations. It therefore is a $(0,4)$ -fold, i.e. a *point* in the four-fold. Suppose that there is an observer whose field of observation at any moment is confined to the contents of this moving $(3,4)$ -fold at that moment. Instead of perceiving the *stationary thread*, as such, he will perceive a *moving*

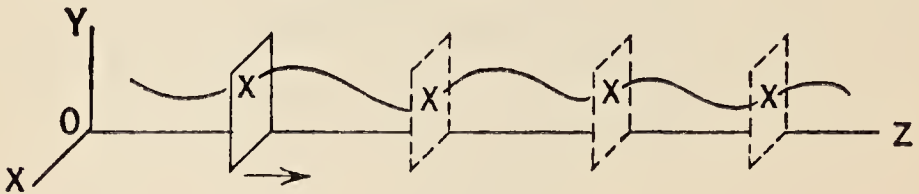


FIG. 2

particle occupying various positions in the various $(3,4)$ -folds which constitute his successive fields. If there were a number of such threads in the four-fold, there would be an equal number of such particles observed in each field. The velocities of these particles, as observed by this observer, would be completely determined, both in magnitude and direction, by (a) the velocity of the moving $(3,4)$ -fold, which we have assumed to be *uniform*, and (b) the purely *geometrical* properties of the threads.

Since a thread is now a $(1,4)$ -fold it will be represented by three simultaneous equations. Suppose that the equations of a thread are $x=f(u)$, $y=g(u)$, $z=h(u)$. And suppose that the moving $(3,4)$ -fold moves along the U-axis with velocity c . Then the observed velocity of the particle along the observer's X-axis will be $c(dx/du)$; along his Y-axis it will be $c(dy/du)$; and along his Z-axis it will be $c(dz/du)$.

Now a 'rigid body' is a set of particles in a three-dimensional space, such that every pair of particles in the set keep at a constant distance apart. It will therefore be the intersection of a

bundle of $(1,4)$ -fold threads with the moving $(3,4)$ -fold. The condition of rigidity is that for every pair of threads, r and s , in the bundle $(x_r - x_s)^2 + (y_r - y_s)^2 + (z_r - z_s)^2$ shall be independent of u .

This completes my account of Hinton's suggestion. The main interest of it is this. It shows that, if we assume one additional spatial dimension beside the three that we can observe, and if we suppose that our field of observation at any moment is confined to the contents of a $(3,4)$ -fold which moves uniformly at right angles to itself along a straight line in this $(3,4)$ -fold, then there is no need to assume *any other* motion in the universe. This *one uniform rectilinear* motion of the observer's field of observation, together with the *purely geometrical properties* of the *stationary material threads* in the four-fold, will account for all the *various observed motions* (various both in magnitude and in direction) of the material *particles* which are the appearances of these threads in the successive fields of observation. From this point of view there is no advantage in carrying the suggestion further, viz. into five or more dimensions. There will always have to be a field moving with uniform rectilinear velocity at right angles to itself; so that no further simplification is introduced to balance the added complication of an extra dimension. But, although such an extension of Hinton's suggestion has no advantage from the point of view of simplifying the treatment of the motion of matter, it may be of use for other purposes. It may, e.g. be of use for explaining precognition. If so, it will be worth trying.

Mr. Dunne's Theory

(1) *Formal Exposition.* Mr. Dunne's theory, in its purely formal and geometrical aspect, is simply an extension of Hinton's suggestion. The *moving field* of Hinton's observer is now treated in the way in which Hinton treated the *moving particles* of ordinary common sense.

In order to explain this extension we will consider first the artificially simplified case of Hinton's theory, illustrated in Fig. 1, where the threads are confined to a two-fold and the observer's field of view at any moment is confined to the contents of a straight line which moves uniformly at right angles to itself in that two-fold. We will then proceed to consider the actual case, where the threads are $(1,4)$ -folds and the observer's field is a moving $(3,4)$ -fold.

Starting with Fig. 1, let us draw an axis OZ at right-angles to the paper, and a plane through OY bisecting the angle between the planes YOX and YOZ. Call this plane YOL. Now imagine a plane moving at right angles to the Z-axis with uniform velocity c . This

will cut the plane YOL in a series of straight lines parallel to YO , such as $Y'O'$ (see Fig. 3).

Suppose that there is an observer whose field of observation at any moment is confined to the contents of the moving plane at that moment. Then he will observe in all his successive fields a straight line which keeps parallel to his Y -axis and moves from left to right along his X -axis. The velocity with which it moves

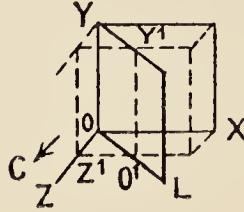


FIG. 3

along his X -axis will be c . For it will be the rate at which successive lines parallel to $Z'O'$ in Fig. 3 increase as the moving plane takes up its successive positions along OZ . Now at every moment $Z'O' = OZ'$, since the plane YOL makes an angle of 45° with YOX and YOZ . And the rate at which OZ' is increasing is c , for we have assumed that the moving plane travels along OZ with velocity c .

We must now turn our attention to the thread in the plane YOX in Fig. 1. Imagine lines drawn through every point of this thread parallel to the Z -axis. The *thread* is now replaced by a *corrugated sheet* with its corrugations stretching indefinitely parallel to OZ .

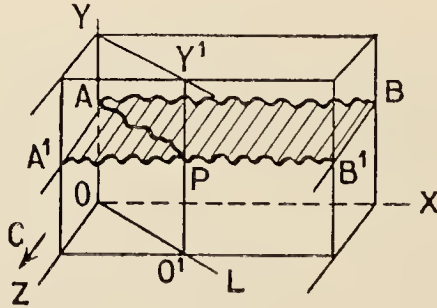


FIG. 4

Our original thread was the section of this sheet by the plane YOX . The moving plane will cut this sheet at every moment in a wavy line exactly similar to the original thread and exactly similarly situated in each successive position of the plane (see Fig. 4).

An observer whose field of observation at any moment is confined to the contents of the *moving plane* at that moment will have the following experiences. He will perceive a *stationary sinuous thread* and he will perceive a *straight line* which keeps parallel to his

Y-axis and moves from left to right along his X-axis with uniform velocity c . The moving straight line cuts the stationary thread at a different point at each different moment until the line gets to the right-hand end of the thread. After this the thread will continue indefinitely to be perceived simply as a stationary whole without any line moving along it and cutting it.

Suppose, on the other hand, that the observer's field of observation at every moment were confined to the contents of the *straight line* in which the moving plane intersects the fixed plane YOL at that moment. In that case all that he would perceive would be a *single particle moving up and down* along the Y-axis. He would perceive *no* moving straight line and *no* stationary sinuous thread.

It is now quite easy to extend this reasoning to the actual case of a thread in a four-fold. This is a (1,4)-fold, and is therefore represented by three independent simultaneous equations, $x=f(u)$, $y=g(u)$, and $z=h(u)$. Suppose we now assume that our original four-fold is a (4,5)-fold, and that the fifth dimension of the five-fold is the axis W. These three equations will now represent a (2,5)-fold, i.e. a *surface*, in the five-fold. Since the equations do not contain W, this (2,5)-fold will be the surface obtained by drawing through every point in the original thread a straight line of indefinite length parallel to the W-axis. It will, therefore, be a corrugated sheet of the kind already described. The original thread will now be the section of this sheet by the (4,5)-fold $w=0$. So it is now represented by the *four* equations $x=f(u)$, $y=g(u)$, $z=h(u)$, and $w=0$.

Let us now suppose that there is in the five-fold a manifold whose equation is $u=w$. This will be a (4,5)-fold. It will intersect the corrugated (2,5)-fold in a *line*. For between them we have the *four* independent equations $x=f(u)$, $y=g(u)$, $z=h(u)$, and $u=w$. These will determine a (1,5)-fold, i.e. a line. It is clear that this line will be symmetrically situated as regards the axes U and W.

Lastly, consider a moving manifold whose equation at any moment t is $w=ct$. This will be a (4,5)-fold moving at right angles to itself along the W-axis with uniform velocity c . As t varies continuously we get a series of such (4,5)-folds further and further along the W-axis. Each of them will intersect the (4,5)-fold $u=w$ in a (3,5)-fold; for between them they give the *two* independent equations $w=ct$ and $u=w$. This (3,5)-fold will intersect the corrugated (2,5)-fold in a *point*. For the intersection is determined by the *five* independent equations $x=f(u)$, $y=g(u)$, $z=h(u)$, $w=ct$, and $u=w$. It is therefore a (0,5)-fold, i.e. a point. Lastly, the (4,5)-fold $w=ct$ will intersect the corrugated (2,5)-fold in a *line*. For the intersection is determined by the *four* independent equations $x=f(u)$, $y=g(u)$, $z=h(u)$, $w=ct$. It is therefore a (1,5)-fold, i.e.

a line. It is obviously a line exactly similar to the original thread, whose equations are $x=f(u)$, $y=g(u)$, $z=h(u)$, $w=0$. The only difference is that it is in the (4,5)-fold $w=ct$ instead of the (4,5)-fold $w=0$.

Now let us suppose that there is an observer whose field of observation at any moment t is confined to the contents of the (4,5)-fold $w=ct$. At every moment he will perceive the (1,5)-fold which is the intersection at that moment of this moving (4,5)-fold with the corrugated (2,5)-fold. He will therefore perceive a *stationary sinuous thread* in a *four-fold*, and not a stationary corrugated surface in a five-fold. He will perceive the (3,5)-fold, which is the intersection at any moment of the moving (4,5)-fold $w=ct$ with the stationary (4,5)-fold $u=w$, at a different position (viz. further along the U-axis) at each successive moment. He will therefore perceive it as a *three-fold* which keeps at right angles to the U-axis and *moves steadily along it* with a uniform velocity c . It will be perceived as cutting the stationary sinuous thread at a *different point* at each different moment until it gets to the end of the thread. After this the thread will continue indefinitely to be perceived simply as a stationary whole in a four-fold, without any three-fold moving along it and cutting it at successive points.

Suppose, on the other hand, that the observer's field of observation at every moment were confined to the contents of the (3,5)-fold in which the moving (4,5)-fold $w=ct$ cuts the stationary (4,5)-fold $u=w$ at that moment. In that case he would perceive a *single particle* (viz. the (0,5)-fold represented by the set of equations $u=w$, $w=ct$, $x=f(u)$, $y=g(u)$, $z=h(u)$) *moving about* in a three-fold. He would perceive *no* moving three-fold and *no* stationary thread. He would, in fact, be in precisely the position of the ordinary man in his normal every-day experiences.

This completes the formal exposition of the second stage of Mr. Dunne's 'serial time'. The first stage is, of course, simply Hinton's suggestion. Mr. Dunne admits that, for the purpose of explaining precognition, there is no need to go beyond the stage which we have now reached. On other grounds, which we will not now consider, he thinks that the process must be carried on indefinitely, adding a further spatial dimension at each stage.

We shall confine our attention to the four-dimensional and the five-dimensional stages, and we shall refer to them respectively as 'Stage I' and 'Stage II'. For many purposes the artificially simplified cases, represented in Figs. 1 and 4, are quite adequate representatives of Stages I and II respectively. They have the advantage that they can be illustrated by diagrams; since the first involves only two, and the second only three, dimensions.

(2) *Application of the Theory to Precognition.* It is easy to see in

outline how the theory just explained bears on the possibility of precognition. For this purpose we can confine ourselves to the artificially simplified case illustrated in Fig. 4, where only three dimensions in all are introduced and the moving field of observation is supposed to be a plane which keeps at right angles to the Z-axis and travels along it with uniform velocity c . The figure is reproduced below, with the addition of a line $Y''P'O''$, which will be needed later in the argument.

We have to compare the experiences (a) of an observer whose field at any moment is confined to the contents of this *moving plane* at that moment, and (b) of an observer whose field at any moment is restricted to the contents at that moment of the *moving straight line* in which the moving plane intersects the stationary plane YOL. Let us call these observers 'Observer II' and 'Observer I' respectively.

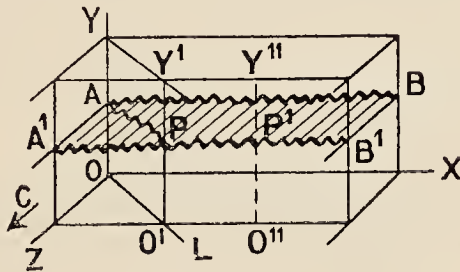


FIG. 5

At each moment Observer II perceives the *whole breadth* of the corrugated sheet. It is true that, at each different moment, he observes different linear sections across its length in the Z-direction. He fails to recognize this; for he knows nothing of the Z-dimension and therefore does not know that there is a sheet or that he is travelling along its length in the Z-dimension. But, since all the sections which he perceives are parallel to each other and exactly similar, the whole spatial form of the sheet in the X and Y-dimensions will be apparent to him at every moment.

At each moment Observer I perceives only *one point* in the corrugated sheet. It will be a different point at each different moment, and it will always lie in the wavy line AP in which the plane YOL cuts the corrugated sheet. This observer knows nothing of the Z-dimension and nothing of the X-dimension. He regards the successive points which he observes as *successive positions of a single particle* which moves up and down the only axis which he recognizes, viz. the Y-axis. Thus Observer II perceives *at every moment* those corrugations which the field of Observer I *has intersected*, but is no longer intersecting, and those corrugations which the field of Observer I *will intersect*, but has not yet intersected. What Observer I perceives

successively as a series of events constituting the history of a moving particle is perceived continuously by Observer II as an unchanging wavy thread.

Now, if Observer II ever concentrates his attention, so that it is confined to the contents of the moving straight line instead of ranging over the contents of the whole moving plane, he becomes identical with Observer I. Whenever he relaxes his attention again he again becomes Observer II. It will be useful henceforth, instead of talking of 'Observer II' and 'Observer I', to talk of 'the Observer in the expanded state' and 'the Observer in the contracted state'.

Now, if the observer can, at certain moments, contract his attention to the contents of a single *vertical line* in the moving plane, he may not be obliged to contract it to the contents of *that particular line* $Y'O'$ in which the moving plane then intersects the stationary plane YOL. He might, instead, concentrate his attention at a certain moment on the contents of another vertical $Y''O''$ further along the X-axis than $Y'O'$. If he does this, he will then perceive the point P' , in which the line $Y''O''$ cuts the corrugated surface, as *an event in the history of a particle* and not as a section of a stationary thread.

Let us now make the following suppositions. (i) That, in normal waking life, the observer's attention is automatically confined at each moment to the contents of the moving line $Y'O'$ in which the moving plane is then intersecting the stationary plane YOL. (ii) That in sleep and certain other conditions this automatic constraint is removed and he passes into the expanded state. (iii) That, when he is in the expanded state, he may, from time to time, re-concentrate his attention so that it is confined to the contents of some line, such as $Y''O''$, other than the line $Y'O'$ in which the moving plane is then intersecting the stationary plane YOL. This line may be either further along the X-axis than $Y'O'$ or not so far along the X-axis as $Y'O'$.

Let us suppose that the observer passes into the expanded state a little while before the moment represented in Fig. 5. At the moment represented in Fig. 5, he concentrates his attention on the contents of the line $Y''O''$, which is further along the X-axis than $Y'O'$. Later on he wakes up, and henceforth his attention is automatically contracted at each moment to the contents of the line in which the moving plane then intersects the plane YOL. To illustrate the situation we will extract the corrugated sheet from Fig. 5, thus producing Fig. 6 below.

When the moving plane has got to a certain position, $A'''B'''$, in Fig. 6, its intersection with fixed plane YOL intersects the corrugated sheet in a point R. R lies on the same corrugation as P' , the point on which the observer concentrated his attention when

he was asleep and the moving plane had got only to $A'B'$. Since the observer is now awake, his attention is now automatically confined to the contents of the intersection between the moving plane and the fixed plane YOL . He therefore perceives the point R as the *present position of a moving particle*. Since R lies on the same corrugation as P' , and the sheet is assumed to stretch uniformly in the Z -direction, the geometrical properties of the sheet round about R will be an exact reproduction of the geometrical properties of the sheet round about P' . Now, when successive intersections of the moving field with the corrugated sheet are perceived as successive events in the history of a particle, the position and motion which this particle will be perceived as having at any moment depend entirely on the geometrical properties of the corrugated sheet at the point then intersected and on the velocity of the moving field. Therefore the position and motion which the observer *perceives* the particle to have when his moving field gets to $A'''B'''$ are exactly

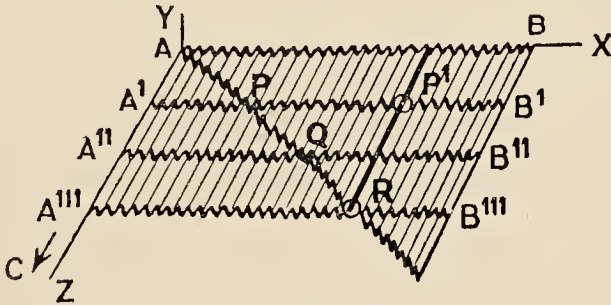


FIG. 6

like the position and motion which he *dreamed* the particle to have when his moving field had only reached $A'B'$. If he recorded his dream when he woke up, i.e. when his moving field had reached the intermediate position $A''B''$, he would certainly be inclined to say, when his field reached the position $A'''B'''$, that he was now perceiving an event of which he had already dreamed.

It is evidently quite easy to extend this reasoning from the artificially simplified case of three dimensions to the real case of five dimensions. We have simply to make the following substitutions. (i) For the sheet, corrugated in the X and Y -dimensions and uniform in the Z -dimension, we substitute a $(2,5)$ -fold, corrugated in the X , Y , Z , and U -dimensions and uniform in the W -dimension. The old sheet was of finite breadth in the X -dimension and of indefinite extent in the Z -dimension. The substituted $(2,5)$ -fold is of finite breadth in the U -dimension and of indefinite extent in the W -dimension. The corrugations of the old sheet were of small extent in the Y -dimension as compared with the breadth of the sheet in the X -dimension. The corrugations of the substituted $(2,5)$ -

fold are of small extent in the X, Y, and Z-dimensions, as compared with its extent in the U-dimension. (ii) For the plane $z=ct$, moving with uniform velocity c along the Z-axis and keeping always at right angles to the latter, we substitute the moving (4,5)-fold whose equation at any moment t is $w=ct$. This moves along the W-axis with uniform velocity c , keeping always at right angles to the latter. For the stationary plane YOL, whose equation is $x=z$, we substitute the stationary (4,5)-fold whose equation is $u=w$. The argument then proceeds, *mutatis mutandis*, exactly in the same way as the argument in the artificially simplified three-dimensional case.

It is extremely important to notice that, on this theory of 'precognition', no event ever is 'precognized' in the strict and literal sense. The dreamer who has a veridical precognitive dream *is not* acquainted in his dream with *that very same event* which later on will happen and fulfil his dream. In the dream he was acquainted with a certain point in the corrugated surface *as it then was*, viz. the then state of the point P'. When the dream is fulfilled he is acquainted with a *different* point in the corrugated surface *as it now is*, viz. the now state of the point R. The latter event is *identified* with the former because the two are precisely alike. And the two are precisely alike because the perceived points occupy corresponding positions on a sheet which is assumed to have remained rigid during the interval between the two experiences, and because this sheet is assumed to be uniform in the dimension along which the moving field is travelling. It is just because Mr. Dunne's theory of 'precognition' *excludes* precognition, in the strict and literal sense, that it can deal with the paradox that a 'precognition' may cause the person who has it to take measures which will prevent the 'precognized event' from happening. We must now turn to this aspect of the theory.

(3) *Action to Avoid the Fulfilment of a 'Precognition'*. Here, again, it is easy to see in outline how the theory must be applied. We must modify the assumption that the corrugated sheet is absolutely rigid and absolutely uniform in the dimension along which the field of observation is moving. We must suppose that the observer can act on the sheet at the place in it which his moving field now occupies, and can thus modify its structure in parts further ahead which the moving field has not yet reached. In order to explain this we will return to the artificially simplified three-dimensional case, illustrated in Figs. 5 and 6.

Let us suppose that the observer, who concentrated his attention on P' in Fig. 6 when his field had reached A'B' and he was still asleep, wakes up when his field gets to A''B''. Let us suppose that he then remembers his dream and takes it to be a precognition of a certain future position and motion of a particle. Suppose that,

for some reason, he desires that the particle shall not have this position and motion in future. Now that he is awake his field is automatically contracted to the intersection of the moving plane with the stationary plane YOL in Fig. 5. Its content is therefore confined to the point Q of the corrugated sheet in Fig. 6. Suppose that he can act on the corrugated sheet at Q in such a way as to modify its geometrical structure instantaneously at every point whose Z-co-ordinate is greater than that of Q and whose X-co-ordinate is also greater than that of Q. Two consequences will follow. (a) The geometrical properties of the sheet at R will no longer be exactly like the geometrical properties of the sheet at P', as they would have been if he had not interfered with the sheet at Q. Therefore the position and motion which the observer perceives the particle to have when his moving field gets to A''B''' are not (as they would have been if he had not interfered in consequence of his dream) exactly like those which he dreamed the particle to have when his field had only reached A'B'. As a consequence of his 'precognitive dream' he has taken action which has prevented the 'precognition' from being fulfilled. (b) As the interference with the sheet at Q has affected *all* points in the sheet whose Z and X-co-ordinates are greater respectively than the Z and X-co-ordinates of Q, it will have affected all the points in the line QR. Therefore the modification of R will not be perceived as a sudden isolated miracle when the moving field reaches R. It will be perceived as the consequence of a change which was deliberately initiated when the field had reached Q and which modifies all the subsequent events in the history of the particle.

As before, there is no difficulty in extending this reasoning from the artificially simplified three-dimensional case to the real case of five dimensions. The necessary substitutions have already been stated.

(4) *Concrete Interpretation of the Theory.* I have now completed the purely formal exposition of the theory and its application to precognition. The question remains whether it is a mere ingenious formal curiosity. Can we identify the corrugated (2,5)-fold, the stationary (4,5)-fold $u=w$, and the moving (4,5)-fold $w=ct$, respectively, with any three entities of which we have empirical knowledge? I do not find Mr. Dunne's answer to this question at all clear. He seems to connect the corrugated (2,5)-fold, which he calls the 'Substratum', with the observer's brain. He calls the stationary (4,5)-fold $u=w$ the 'Reagent'; but I have failed to discover or to understand what empirical object he proposes to identify with it. I am afraid that I can throw very little light on these vitally important questions, but there are certain things which seem worth saying.

(i) A brain is a very complex material system which, from the ordinary three-dimensional point of view, consists of an enormous number of material particles moving about in various ways and influencing each other's motions by occasional impact or continual action at a distance. From the five-dimensional point of view *each* particle is correlated with the whole of *one* of our corrugated (2,5)-folds, and each *different* particle is correlated with a *different* (2,5)-fold. Therefore a complete brain must be correlated with a whole *stack*, containing an enormous number of these (2,5)-folds touching each other at certain points (corresponding to impacts of the brain-particles) and separated at other points. Such a stack will be of no great thickness in the X, Y, and Z-dimensions; for when a brain is regarded as a persistent three-dimensional object, it is a comparatively small thing. The width of the stack in the U-dimension may be considerable, since it is proportional to the time for which the brain would be said to last by an observer who regarded it as a three-dimensional object with a variable history. The extension of the stack in the W-dimension would, for all we know, be indefinitely great. If we are to correlate Mr. Dunne's 'Substratum' with the observer's brain, we must identify the Substratum with such a stack of (2,5)-folds, taken as a whole, and not with any one (2,5)-fold.

(ii) Even the suggestion of a stack of (2,5)-folds, such as we have just described, is an over-simplification of the actual facts about the brain. It would be adequate if a brain, from the three dimensional point of view, were a system which consisted of the same particles throughout its whole history. But this is certainly not true. The brain is constantly, if slowly, breaking down into waste products which are ultimately excreted; and it is constantly, if slowly, being rebuilt from materials which were ultimately ingested in the form of food, water, and air. The sheet corresponding to each ultimate particle of the brain would, so far as we know, be extended indefinitely in the U-dimension as well as in the W-dimension. For when atoms are regarded as particles which persist and move about in a three-dimensional space, we know of no limit to the length of their history. We shall have to think of each stack by analogy to a finite length of cable made of numerous wires twisted together in the following way. Each individual wire is much longer than the cable. Each wire enters the cable at a certain point, becomes part of the cable for a certain segment of its length, and leaves the cable again at a certain other point. The segment of any individual wire which forms part of the cable is considerably shorter than the cable itself, though each individual wire as a whole is indefinitely longer than the cable itself. If we are to correlate Mr. Dunne's 'Substratum' with the observer's brain, we must identify the Sub-

stratum with a stack of (2,5)-folds conceived by analogy with such a cable as has just been described.

(iii) An observer, whether he is in the waking or the sleeping state, is acquainted with *sensa*, images, and bodily feelings. He is not, *prima facie*, acquainted with the moving particles of his own brain. I think it is clear at the outset that Mr. Dunne takes the contents of the observer's field at any moment to be 'presentations' (i.e. *sensa*, images, bodily feelings, etc.), and *not* to be that part of the Substratum which the field intersects at that moment. He assumes that there is a one-to-one correlation between the sensible, positional, and other qualities of the presentations in the observer's field at any moment, on the one hand, and the geometrical characteristics of that part of the Substratum which the field is then intersecting, on the other. But, although this distinction between the contents of the field at any moment and the part of the Substratum which the field intersects at that moment is definitely drawn at the beginning of the discussion, it seems to drop out of sight in the formal exposition of the theory. In Mr. Dunne's formal exposition, as in my modified reproduction of it, everything proceeds as if what the observer is acquainted with were *the Substratum itself*. Everything proceeds as if the observer, when in the expanded state, perceives sections of the Substratum itself as a set of stationary sinuous lines; and as if, when he is in the contracted state, he perceives certain points of the Substratum itself as a set of moving interacting particles. When we remember that this supposition is admittedly false, we begin to wonder whether the consequences developed from it in the formal exposition can be carried over to the presentations of our actual waking and sleeping experience.

(iv) I cannot think of any concrete interpretation which can plausibly be put on the 'Reagent', i.e. the stationary (4,5)-fold $u=w$ which intersects the moving (4,5)-fold $w=ct$ in a moving (3,5)-fold to which the observer's field is automatically confined whenever he is in the contracted state. Mr. Dunne talks of it as 'coming *between*' (his italics) 'observer 2 and the substratum section . . . which is, somehow, affecting that observer 2'. It looks as if he pictured the Substratum as the floor of a long, narrow room, and the Reagent as a long, thin strip of carpet stretched from one corner to the diagonally opposite corner of the room, leaving most of the floor bare. The field of the observer in the expanded state seems to be pictured as stretching right across the breadth of the room and moving down the length of it. So at every stage in the motion of the field the carpet comes between the field and one part of the floor, but the field is in direct contact with the floor where it extends beyond the edges of the strip of carpet on both sides of the latter. This, however, is mere mythology.

Perhaps it would be enough to make the following assumptions. (a) That those points of the Substratum which satisfy the equation $u=w$ have a peculiar property which does not belong to any other points of the Substratum. (b) That the various presentations which occupy the moving field at any moment are determined jointly by the velocity of the field along the W-axis and the properties of the points at which the field then intersects the Substratum. (c) That the peculiar property of those points of the Substratum which satisfy the equation $u=w$ imparts a peculiar quality to the presentations which are due to *them*, and thus makes these presentations stand out in any field from the rest of the presentations in that field. And (d) that the 'contracted state' of the Observer just consists in his inability to turn his attention away from the presentations which are marked out by this peculiar quality and to attend to the contents of his field as a whole.

(5) *The Alleged Infinite Series*. Mr. Dunne's doctrine on this point seems to be fairly summarized in the following four propositions. (i) Even if there had been no evidence for precognition, the admitted facts about time make it necessary to start on the series whose first two stages we have described. (ii) It is then found, as an interesting and important collateral consequence, that at Stage II an explanation of precognition emerges. (iii) If it is necessary to start on the series, it is impossible to stop anywhere in it. At each stage there is precisely the same need to introduce a further spatial dimension as there was at the stage before. (iv) This regress, though infinite, is harmless. Mr. Dunne never doubts the reality of time and change, and he talks cheerfully of 'the Observer at infinity'.

I can state quite briefly my own opinion about these four propositions. (i) I accept the third proposition. At the first stage motion of particles along the X, Y, and Z-axes is replaced by motion of the field of observation along a fourth spatial axis, U, at right angles to these three. At the second stage this motion along the U-axis is replaced by motion along a fifth spatial axis, W, at right angles to the previous four. Plainly, if it is *necessary* to start this process, there is no stage at which it is not equally necessary to continue it. (ii) I reject the fourth proposition. If this regress is involved in the notion of time, it is vicious, and the notion of time must be rejected as delusive. The 'Observer at infinity' would be the *last* term of a series which, by hypothesis, *cannot have* a last term. Therefore the notion of 'the Observer at infinity' is a self-contradictory notion and there can be no such observer. Yet, on Mr. Dunne's theory, unless there were such an observer, there would be no observer at all. (iii) I cannot find in *An Experiment with Time* any conclusive reason for Mr. Dunne's first proposition. The

process starts, as we have seen, with Hinton's suggestion of replacing moving particles by stationary sinuous (1,4)-folds and a (3,4)-fold field of observation moving uniformly along a fourth spatial axis. This is an interesting and ingenious suggestion, and it has the positive merit of introducing a unity and simplicity into the phenomena of motion which is otherwise lacking. But I can see no trace of logical necessity about it. And, if there is no logical necessity to take the first step, there can be no logical necessity to take the second or any subsequent step in the series. The second step does not even have the merit of introducing additional unity and simplicity. If it is justifiable at all, it is justifiable *only* on the empirical ground that there are cases of precognition and that they can be explained by taking the second step and not otherwise. So far as I know, there are no empirical grounds for taking a third step. In his later book, *The Serial Universe*, Mr. Dunne infers the necessity of an endless regress from the movement of 'presentness' along the series of events in time. The regress to which this seems to lead is used by McTaggart as the basis of his argument against the reality of time; and, if it does lead to this regress, McTaggart's conclusion is the right one. (iv) I agree with Mr. Dunne's second proposition. At Stage II we do get the formal outline of a possible explanation of precognition, though, as I have tried to show, it is not very easy to put a concrete interpretation on the various elements in the formal theory.

HENRY SIDGWICK AND PSYCHICAL RESEARCH

HENRY SIDGWICK, one of the founders and the first President of our Society, was born on 31st May 1838. His centenary has recently been celebrated by a memorial lecture at Leeds, in the neighbourhood of which city he was born, and at Cambridge, where he dwelled and worked throughout the greater part of his life. As the S.P.R. owes its existence and its present status of at least semi-respectability in scientific circles very largely to the courage, patience, wisdom, and generosity of Sidgwick, it is only fitting that the great services he rendered to it should be recalled at this time to our members. From the nature of the case, most of Sidgwick's intimate friends and colleagues are now dead or advanced in years. The present writer never knew Sidgwick personally and has had no access to unpublished sources of information about him. But he happens to have succeeded him, *longo intervallo* in every sense of the phrase, both as President of the S.P.R. and as Knightbridge Professor at Cambridge, and he finds Sidgwick's attitude both in philosophy and in psychical research peculiarly admirable and sympathetic. These seemed to him to be adequate grounds for undertaking to write for the *Proceedings* an account of Sidgwick's relations with psychical research in general and the S.P.R. in particular.

It will be as well to begin with a very brief account of Sidgwick's life. He was born at Skipton on 31st May 1838, being the third son and fourth child of the Rev. William Sidgwick and Mary Crofts. His paternal grandfather was a cotton-spinner at Skipton, and his uncles carried on the business. His father was educated at Trinity College, Cambridge, and entered the Church. He held various cures, and, at the time when Henry was born, he was headmaster of the grammar school at Skipton. He died in 1841, when Henry was three years old, leaving his wife with a family of young children. After attending preparatory schools at Bristol and at Blackheath Sidgwick entered Rugby in 1852. His cousin, E. W. Benson, afterwards Archbishop of Canterbury, was then a young assistant

master at Rugby. In 1853 Sidgwick's mother moved to Rugby and he and Benson lived with her. His school career was happy and brilliant, and he made several friendships which lasted throughout life. He entered Trinity College, Cambridge, in October 1855, where he studied mathematics and classics. He was a respectable mathematician and a brilliant classic. In 1856 he shared the second Bell Scholarship with J. M. Wilson, in 1857 he won the Craven Scholarship, and in 1858 he shared the Browne's Prize for Greek and Latin Epigrams with G. O. Trevelyan. In 1859 he was thirty-third wrangler in the mathematical tripos and was placed first in the classical tripos. In the same year he won the First Chancellor's Medal and crowned his academic career by being elected to a fellowship at Trinity. The rest of his working life was spent at Cambridge.

During the sixties Sidgwick was engaged in a desperate internal struggle with the intellectual difficulties which the Christian religion, as then understood in England, presented to honest and instructed minds. In the course of these inquiries he gained a thorough mastery of Hebrew and Arabic, made an elaborate study of theology, and immersed himself in philosophy. At that time it was a condition of holding a fellowship that the holder should declare himself to be a '*bona fide* member of the Church of England'. This obligation was not usually taken very seriously, but Sidgwick was an exceptionally conscientious man. By June 1869 he had come to the conclusion that he did not fulfil the condition literally enough to justify him in holding a paid office on these terms. He therefore resigned his fellowship and assistant tutorship at Trinity. The college accepted his resignation with deep regret and did what it could to compensate him by creating a lectureship in Moral Science, without theological conditions, and appointing him to it. Nevertheless, Sidgwick suffered a considerable loss of income and amenities for a number of years.

In 1875 Trinity appointed Sidgwick Praelector in Moral and Political Philosophy, which gave him an increased income and an assured position. In the same year he became engaged to Eleanor Mildred Balfour, whom he married in 1876. He and his future wife had met while working at the two subjects which were destined to occupy most of their future time and energy, viz. psychical research and the higher education of women at Cambridge. It should be unnecessary to remind members of the S.P.R. of the magnificent work which Mrs. Sidgwick did for the Society and for the subject during her long and active life. Anyone who will take the trouble to read the memoirs of Mrs. Sidgwick by Miss Johnson, Mr. Salter, and Mr. Besterman, in Vol. XLIV of the *Proceedings*, and will then refer back to the numerous and masterly articles

which she contributed to previous volumes, will see that one of Sidgwick's most important services to psychical research was to encourage his wife to pursue the subject.

By 1880 the movement for the education of women at Cambridge had progressed so far that a new Hall of Residence at Newnham had been built, and Sidgwick and Mrs. Sidgwick temporarily moved into it. In the following year Trinity made him an honorary fellow. He had applied for the Knightbridge Professorship of Moral Philosophy on the death of F. D. Maurice in 1872, but another candidate had rather unaccountably been chosen. The professorship again fell vacant in 1883, and this time Sidgwick was elected. He held the chair until his last illness in the spring of 1900.

Throughout his life Sidgwick had been an active participator in various attempts to reform the constitution of his own college and the university. In 1876 Lord Salisbury set up a statutory commission for Oxford and Cambridge on the lines desired by the Cambridge liberals. The new statutes came into force in 1882, and Sidgwick was much occupied during the next ten years in the delicate work of initiating and trying to carry through certain financial and educational changes which they had made possible and which he thought desirable.

In 1892 Mrs. Sidgwick accepted the Principalship of Newnham College on the death of Miss Clough. The building at Newnham which she was to occupy was completed at the end of 1893, and the Sidgwicks then gave up their house in Cambridge and moved into Newnham College, where Sidgwick spent the last seven years of his life. Early in 1900 he underwent a serious operation, from which he never recovered. He died on 28th August, 1900, at the house of his brother-in-law, Lord Rayleigh, at Terling in Essex. He is buried in the churchyard of Terling.

During the period which has been covered in this sketch of Sidgwick's life he was busily engaged in his academic work in philosophy, political theory, and economics. The most important works which he published in his lifetime were *The Methods of Ethics*, *Outlines of the History of Ethics for English Readers*, *The Principles of Political Economy*, and *The Elements of Politics*. After his death four substantial books were made out of his lectures, viz. *Philosophy, its Scope and Relations*, *The Development of European Polity*, *Lectures on the Ethics of Green, Spencer, and Martineau*, and *Lectures on the Philosophy of Kant*. He wrote numerous articles on literary, educational, and other subjects, and a collection of these has been published under the title of *Miscellaneous Essays and Addresses*.

The reader is now in possession of the main facts about Sidgwick's work in other fields than that of psychical research. Let us

now consider the history of his activities in the latter field. His interest in ostensibly supernormal phenomena goes back to the beginning of his undergraduate days. When he went up to Cambridge a society called the 'Ghost Society' already existed there. One of the founders of this had been his cousin, E. W. Benson. Westcott was secretary of it until 1860, when he left Cambridge for Harrow. Sidgwick joined the Ghost Society while he was still an undergraduate.

It is plain from his letters that he was collecting stories of supernormal phenomena in the late fifties and early sixties. In a letter to his sister of 30th October 1859, he refers to a ghost-story sent him by his mother, and to others which he had had from an Irish friend. In another letter, later in the same term, he mentions a newspaper cutting, sent to him by his Uncle Robert, narrating a dream of her son's death which a poor woman had on the night of the wreck of the 'Royal Charter'. He makes the characteristically cautious comment: 'It was curious, but, considering how fruitful of dreams such a night must be, not very strong evidence.' In a letter to his mother, in July 1860, he thanks her for a ghost-story and says that he has had two very remarkable ones at first hand from a clergyman. 'Mind you shut up everybody who says that such stories can only be got from "cousin's cousin's friends" or such like distant parties' is the admonition which he gives to his mother at the end of the letter.

In 1860, whilst staying in London with his friend Cowell, he had his first experience of a sitting with a professional medium for physical phenomena. In a letter to his sister he describes the medium as 'a complete humbug'. In 1864 he and Cowell had sittings together for automatic writing. Cowell produced the writing and they were both puzzled by hearing unexplained raps, but they agreed that there was nothing in the contents of the scripts that could not have come from their own minds. Many years afterwards Sidgwick gave an account of these sittings to F. W. H. Myers, which is printed in Myers's article on 'Automatic Writing' in Vol. III of the *Proceedings*. Two points of interest emerged. One was the ingenuity which the unconscious part of Cowell's mind displayed in puzzling the conscious part of it. The other was the elaborate stories which would be developed in the automatic script to account for the failures of the ostensible communicator to pass the tests which Cowell and Sidgwick had devised in order to examine his claims to be an independent entity.

The first period of Sidgwick's investigations into Spiritualism extends roughly from 1865 to 1875. In 1863 he writes to his friend Dakyns: 'I have not yet investigated Spiritualism, but I am still bent on doing so as soon as I get an opportunity.' He also men-

tions that T. H. Green 'sniffed at' it, as one might perhaps have expected. In writing to his mother early in 1864, in reference to a book which she had recommended to him, he says: 'I am pretty well read in pneumatological literature, but I have not heard of the book that you mention.' Later in the year he writes to Dakyns saying: 'As to Spirituality I have not progressed, but am in painful doubt. Still, I have some personal experiences and much testimony, and I find it hard to believe that I shall not discover some unknown laws, psychological or other. . . .' Writing to Roden Noel in December 1866, he makes some interesting comments on the effects which his recent reading of Lecky's *History of Rationalism* has had on him. The book had set him to consider the *evidence* for medieval miracles, a topic which Lecky explicitly ignored. Sidgwick was considerably impressed by this evidence, and he writes to Noel as follows: 'I dimly foresee that I shall have to entirely alter my whole view of the universe and admit the "miraculous" . . . as a *permanent* element in human history and experience. . . .' He suggests that these reflexions link up with his interest in Spirituality, and that together they may throw a light on the origin of all religions.

In the summer of 1867 Sidgwick was staying in London and he had many experiences of spiritualistic phenomena. Some of them were impressive, but he could never get absolutely satisfactory evidential conditions. During this period he happened to meet Mazzini at a dinner party, and he was greatly interested by a story of a collective hallucination, due to mass-suggestion, which Mazzini related to him from his own experience. The case is described in a footnote to Chapter XVIII of *Phantasms of the Living* (p. 477 of the abridged edition). It seems to be worth quoting. In or near some Italian town Mazzini saw a group of people standing gazing upwards into the sky. He went up to one of them and asked him what he was gazing at. 'The cross—do you not see it?' said the man, pointing to the place where the cross was supposed to be. Mazzini could see nothing in the least cruciform in the sky; but, on inquiring of others, he found that they also thought they were seeing a cross. At length Mazzini happened to notice one gazer who looked rather more intelligent than the rest, and also seemed to have a faint air of doubt and perplexity. Mazzini went up to him and asked him what he was looking at. 'The cross,' he said, 'there.' Mazzini took hold of his arm, gave him a slight shake, and said to him: 'There is not any cross at all.' A change came over the gazer's face as if he were waking from a kind of dream, and he answered: 'No, as you say, there is no cross at all.' He then walked away with Mazzini, leaving the rest of the crowd to enjoy their collective hallucination. Sidgwick always remained greatly impressed with

the importance of this story in relation to the evidence for the ostensibly supernormal physical phenomena of Spiritualism.

From 1869 onwards Sidgwick began to be associated with Myers in a common interest in psychical research. In the very eloquent and moving memoir of Sidgwick which Myers contributed to Vol. xv of the *Proceedings* he states that it was during a star-light walk in Cambridge, on 3rd December 1869, that he broached the subject to Sidgwick and determined, if possible, henceforth to pursue the elusive quarry with the latter as his guide. Myers had read classics with Sidgwick as his private tutor when he came up to Trinity as an undergraduate in 1860. The occasion of the visit to Cambridge in December 1869, from which he dates the beginning of their co-operation as psychical researchers, was the fact that Myers was then examining for the Moral Sciences Tripos. The first mention of such co-operation in Sidgwick's published letters is in a letter to Myers dated 30th October 1873. The following passage is so characteristic as to be well worth quoting: 'As for spirit-rapping I am in exactly the same mind towards it as towards religion. I believe there is something in it, don't know what, have tried hard to discover, and find that I always paralyse the phenomena. My taste is strongly affected by the obvious humbug mixed with it, which at the same time my reason does not overestimate.'

In 1871 Sir William Crookes had published, in the *Quarterly Journal of Science* and elsewhere, an account of his experimental researches in the physical phenomena of Spiritualism. He wrote further articles about it in 1874 and in the same year Alfred Russell Wallace had published in the *Fortnightly Review* a paper entitled 'A Defence of Modern Spiritualism'. Sidgwick, writing to his mother on 11th July 1874, said: '*No one* should pronounce on the *prima facie* case for serious investigation—this is really all that I maintain on behalf of Spiritualism—who has not read Crookes's *Researches*.' Sidgwick and Myers now started to investigate together, and they formed a small association for the purpose, which was a kind of forerunner of the S.P.R. Edmund Gurney, who was to become one of the most active and important workers in the S.P.R., was at first hesitant at joining and contented himself with giving his warmest sympathy to this association. However, A. J. Balfour and Lord Rayleigh both joined, and experiments were conducted in their homes. It was in the course of these experiments that Sidgwick met the sister of A. J. Balfour, whom he afterwards married.

These experiments were subsequently described by Mrs. Sidgwick in an excellent article in Vol. iv of the S.P.R. *Proceedings* entitled 'The Physical Phenomena of Spiritualism'. The mediums concerned in 1874 were Miss Showers, Mrs. Jencken (*née* Kate

Fox), and Miss Eva Fay. In the first three months of 1875 Sidgwick, Myers, and Gurney had sittings for materialization at Newcastle with Miss Wood and Miss Fairlamb, and they had another series of sittings with the same mediums in London later in the year. Mrs. Sidgwick was not present at these, but she was present at a further series held in London in July and in Cambridge during August and September. These two mediums quarrelled and separated some time during the year 1876, and the final sittings, which the Sidgwicks held at Newcastle in January 1877, had to be conducted with Miss Wood and Miss Fairlamb separately. In 1874, and again in 1876, Sidgwick had a series of sittings with a medium called Williams. Sidgwick and Mrs. Sidgwick had some sittings in the summer of 1876 with a young and palpably fraudulent Mr. Bullock, who, as Mrs. Sidgwick dryly remarks: 'may have acted wisely in his own interests when he gave up the career of medium and took to that of exposé of Spiritualism, as he did six or seven months later'. In the same year the celebrated Dr. Slade came to London. It was reported that his control by four-dimensional spirits had enabled him to tie knots in a bit of string whose ends had been sealed together by the German psychologist Fechner. He also specialized in causing writing to appear inside a locked double slate in answer to questions put by sitters. The Sidgwicks had ten sittings with him for slate-writing. Mrs. Sidgwick also had three sittings with Eglinton, another famous slate-writing medium of the period.

The results of all this work with paid professional mediums for physical phenomena may be fairly summarized as follows: Many of the sittings were complete blanks. In some fraud was actually detected and in some there were circumstances which made it almost certain that fraud had been practised. In the very few cases where it looked as if a positive supernormal effect had been obtained there was always some unfortunate breakdown in some part of the control, or some diversion of the sitters' attention by external interruption, which made it possible to account for the phenomenon by normal causes. The course of Sidgwick's disillusionment and disgust may be traced in his letters during this period. Writing to Myers at the end of 1874 he remarks that he has had to drop Mrs. Jencken and will now have to drop Miss Fay out of his 'case for Spiritualism'. He adds the following remarks: 'What induces me, not to abandon, but to restrict, my spiritualistic investigations is not their disagreeableness (they have never been other than disagreeable so far as paid mediums are concerned) but their persistent and singular frustration.' The subsequent experiences of the S.P.R. with physical mediums have emphasized the 'persistence' and diminished the 'singularity' of such frustration.

In the autumn of 1876 Professor Ray Lankester instituted criminal proceedings against Dr. Slade, whom he claimed to have detected in fraud. Sidgwick expected, though he did not desire, to be *subpoenaed* by Ray Lankester's lawyers. Writing on this matter to Dakyns on 10th October 1876, Sidgwick says that, so far as his own experience goes, he would unhesitatingly pronounce *against* Slade. But he admits that there is testimony *for* him which he would like to see examined in a court of law.

This whole period of Sidgwick's dealings with psychical research is well summed up in the following passage from a letter which he wrote to Roden Noel on 24th June 1878. 'I have not quite given up Spiritualism, but my investigation of it is a very dreary and disappointing chapter in my life.'

We come now to the revival of Sidgwick's interest which led to his consenting to take an active part in founding and guiding the S.P.R. This was due to the apparent success of certain experiments in thought-transference which Professor William Barrett had been carrying out at Dublin. At Barrett's instigation a conference was convened, and it met on 6th January 1882. At this conference the S.P.R. was planned. It was to include persons of all shades of opinion, from sceptical scientists who were reasonable enough to admit that there was a *prima facie* case for investigation to convinced Spiritualists who were reasonable enough to admit that there was a great deal of fraud and imposture and self-deception to be eliminated. Barrett represented the scientific wing and Stainton Moses the spiritualistic wing. Myers tells us that he and Gurney, whilst heartily approving the general scheme, consented to join if, and only if, Sidgwick would do so and would consent to be President. They encouraged him to undertake this task, but it was only after considerable hesitation that he accepted. There were strong and respectable motives against doing so. Why should he spend more of his time and energy, both of which were very fully occupied in work immediately beneficial to his fellow-men, in order, as Myers puts it, 'to get the moon for a child who had not even cried for it'? Orthodox believers did not want their special revelation to be shown to be part of a wider system; and orthodox scientists treated the whole matter at best with compassion and at worst with contempt. On the other hand, Sidgwick had never considered that the original question, which he had spent so much time and trouble in investigating with so little result, had been answered in the negative by his abortive researches in the mediumistic underworld. There had never been any moment at which he had felt that he had the right to abandon further investigation of the subject. And he had certain positive motives, connected with his religious, ethical, and philosophical perplexities, for wishing the ques-

tion at issue to be settled definitely in one direction or the other. To these motives we shall return at a later stage.

At present it will suffice to say that eventually Sidgwick consented to join the S.P.R. and to be its first President. His entry carried with it the adhesion to the Society of several others who were destined to play a most important part in its life and work. It brought in Mrs. Sidgwick, her brothers Arthur and Gerald Balfour, and her brother-in-law, Lord Rayleigh, and, as we have already seen, it was the condition without which the Society would have lacked the inestimable services of Edmund Gurney and Frederick Myers. Moreover, the fact that Sidgwick, whose reputation for sanity, truthfulness, and fairness was well known to everyone who mattered in England, was at the head of the Society gave it an intellectual and moral status which was invaluable at the time. It was hardly possible to maintain, without writing oneself down as an ass, that a society over which Sidgwick presided and in whose work he was actively interested consisted of knaves and fools concealing superstition under the cloak of scientific verbiage. Needless to say, this feat was not found to exceed the capacity of some critics; but, with almost anyone else as President, their numbers would have been far greater and their influence might have sufficed to kill the Society in its infancy.

Sidgwick gave his inaugural address to the S.P.R. on 17th July 1882. He delivered a second presidential address on December the 9th of the same year, and a third on 18th July 1883. These will be found in Vol. I of the *Proceedings*. Vol. II contains another presidential address delivered on 28th May 1884. He resigned the Presidentship in 1885, thinking that the Society could now profit from a change, but at the same time he undertook the editorship of the *Journal*. His successor in the presidential chair was Balfour Stewart.

During the year 1884 the S.P.R. appointed a committee to take evidence in London from leading members of the Theosophical Society about the marvellous phenomena alleged to have taken place in India in connexion with Madame Blavatsky and certain other members of her sect. Madame Blavatsky, Colonel Olcott, and a Brahmin disciple called Mohini spent some months in London and gave evidence to this committee. Sidgwick as President was *ex officio* a member. The Theosophical contingent visited Cambridge early in August, attended a meeting in Oscar Browning's rooms in King's, and were entertained to luncheon by Myers. The Sidgwicks rather liked Madame Blavatsky, who was evidently an engaging old humbug with a rich and racy personality and full of courage and resource. They found her, it is true, externally unattractive and not prepossessing in manner; and indeed her habit of

smoking incessant cigarettes and indulging in relatively strong language, though it would pass unnoticed in our more enlightened age, could hardly fail to attract unfavourable attention in a Cambridge drawing-room of the eighteen-eighties. Sidgwick says of her in his diary for August 10th: 'If she is a humbug, she is a consummate one; as her remarks have the air not only of spontaneity and randomness but of an amusing indiscretion.' (She had referred to a certain Mahatma, a class of beings for whom the Theosophists entertained the highest reverence, as 'the most utter dried-up old mummy' that she ever saw.)

The Theosophical sub-committee issued a balanced interim report which was privately printed and circulated to members of the S.P.R. At the end of it they announced that Richard Hodgson was on his way to India to investigate and report at first hand. Hodgson completed his task and returned to England in April 1885. His evidence as to the fraudulent character of the Theosophical marvels was damning; though one could have wished that he had not had to rely so much on the revelations of two discharged employees of Madame Blavatsky who had quarrelled with her and were busily engaged in biting the hand which had not ungenerously fed them. The final report, embodying Hodgson's findings, was written mainly by Mrs. Sidgwick. It occupies a considerable part of Vol. III of the *Proceedings* and is easily the most dramatic and entertaining bit of work that the Society has ever published.

During the latter part of 1884 Mrs. Sidgwick was working at the important paper on 'Phantasms of the Dead', which she read on 30th January 1885. It is published in Vol. III of the *Proceedings*. In preparation for it Sidgwick investigated critically the numerous ghost-stories that had been sent to the S.P.R., and in September 1884 he made a tour to interview persons who had contributed such stories. He says that the evidence is not so good as for phantasms of the living, and that out of about three hundred cases not more than twenty or thirty can be pronounced good. After returning from his tour of interviewing he remarks: 'The stories that become worse after oral examination are those that we had already judged to be objectionable, and some are decidedly improved by the examination.' His comment after Mrs. Sidgwick had read her paper was: 'It looks as if there was *some* cause for persons experiencing independently in certain houses similar hallucinations. But we are not at present inclined to back ghosts against the field as *the* cause.'

In the meanwhile, Myers, Gurney, and Podmore, were busily engaged in comminuting and refining those masses of crude ore from which the two volumes of *Phantasms of the Living* were eventually smelted. This is undoubtedly an epoch-making work, in the

strict sense that it laid the foundations of a new subject and still remains a classic indispensable to all students in its own field. Both Sidgwick and his wife were, of course, in constant touch with the authors at all stages of their work.

In June 1885 Myers read his introduction to *Phantasms of the Living* as a paper to the S.P.R. Sidgwick's comments in his diary are of great interest. 'In the end', he says, 'if the S.P.R.'s work should all be negative, it will be regarded by sceptics as the last element of proof necessary to complete the case against Christianity and other historical religions. But for a long time the only difference would be that those religions will have to *support* their miracles instead of *being supported* by them. They can go on doing this for a long time until sociology has been really constructed and the scientist steps into the place of the priest.' The same thought is expressed in the following sentence of Myers's Obituary Notice on Sidgwick. 'It would be hard for future men to persuade themselves that what in ages of knowledge and clarity was seen to be fraud and illusion had yet been verity and revelation in the confused obscurity of the past.' Neither Sidgwick nor Myers could foresee that in another fifty years compulsory education would have produced throughout the civilized world a populace of literate imbeciles, ready to believe or to disbelieve anything with equal passion and unreason, and that science would have provided, in the cheap press and the wireless, an immensely powerful engine for generating irrational beliefs and disbeliefs at will. Before taking leave of this topic we may recall the remark in which Gibbon contrived to twit both the Jews and the Christians. Referring to the rejection, by the Jews of apostolic times, of those stupendous miracles which, according to the Christians, were happening under their very noses, Gibbon remarks: 'Contrary to every known principle of the human mind, that singular people seem to have attached a more explicit credence to the testimony of their remote ancestors than to the evidence of their own senses.'

Sidgwick's central position, and his oscillations about it, during this period are well brought out by the following quotations from his diary. On 3rd January 1886, after a meeting of the S.P.R., which now had 600 members and associates and could, in his opinion, 'run without further nursing', he wrote as follows: 'I do not doubt that thought-transference is genuine, and I hope that it will soon be established beyond cavil; but I see no prospect of making any way in the far more interesting investigation of Spiritualism.' On March 7th of the same year, after listening to a mildly spiritualistic paper by Sir William Barrett, he wrote: 'I feel that the natural drift of my mind is now towards total incredulity in respect of extra-human intelligences. I have to remind myself

forcibly of the arguments on the other side, just as a year ago I had to dwell deliberately on the sceptical argument to keep myself balanced.' On 28th January 1887 he wrote: 'I am drifting steadily to the conclusion that we have not and are not likely to have empirical evidence of the existence of the individual after death.' On 16th July 1888, after giving an address to the S.P.R. in which he pleaded for the collection of further cases of spontaneous telepathic action, he wrote: 'I have not much hope of our getting at positive results in any other department of our inquiry, but I am not yet hopeless of establishing telepathy.'

Even about telepathy, which he regarded as established to his own satisfaction, he was subject to the set-backs and disappointments which are the lot of the psychical researcher. In his diary for 29th November 1884, he writes: 'I am shaken in my view of the telepathic evidence by the breakdown of Sir E. H.'s narrative in the *Nineteenth Century*. He tells an elaborate story of what happened to him less than ten years ago. His wife, who was an actor in it, confirms it. Her mother bears witness that the wife told her next morning. Yet the story is inaccurate in fundamental details—it is difficult to understand how any of it can be true.' Lastly, there was a sad disappointment in his experiments with Miss Relph at Liverpool. Sidgwick investigated her claims to telepathic powers in March 1887. On the 30th the results were so good that he was able to say 'they leave no doubt in my own mind that I had witnessed the real phenomena.' On March 31st the attempts to repeat the results under unexceptionable 'conditions' were a complete failure. Sidgwick still accepted the former results, but realized that they were not enough to convince an outsider.

On 25th June 1888 there befell one of the great tragedies of psychical research, viz. the sudden death, at a comparatively early age, of Edmund Gurney through an overdose of chloroform taken for neuralgia or insomnia. It was a terrible blow to the Sidgwicks personally, and it will be evident to anyone who has studied *Phantasms of the Living* or read the admirable articles which Gurney contributed to the early volumes of the *Proceedings* that his death was an irreparable loss to the Society and to the subject. Sidgwick had now become President of the S.P.R. for a second period after a considerable interval, and he delivered his presidential address on 16th July 1888, three weeks after Gurney's death. This brings us by a natural transition to the next important piece of work with which the Sidgwicks were closely concerned, viz. the S.P.R.'s *Census of Hallucinations*.

Everyone is familiar with stories of the following kind. A has an hallucinatory visual, auditory, or tactual perception in which he seems to himself to be seeing or hearing or touching a certain

friend or acquaintanc *B*. Afterwards, *A* learns that *B* was dying or in serious danger at the time when the hallucination was experienced. The S.P.R. was naturally inundated with stories of this kind and its first business was, of course, to weed out all the cases which might reasonably be explained by misreporting, exaggeration, errors of memory, normal expectation and inference, and so on. When this had been done there remained a substantial residue of such stories which appeared incapable of any normal explanation. As regards this residue only two alternatives were open. Either the approximate simultaneity between the hallucination in *A* and the death or illness or accident in *B* was a mere coincidence, or there was some supernormal causal connexion between the two. It had been quite evident to Gurney that no rational decision between these two alternatives was possible except on a statistical basis. It was essential to know how frequently such hallucinatory experiences occur among sane waking persons in contemporary civilized societies. The more frequent they are, the more likely it is that some of them will happen to coincide with the death or danger of the person whom they concern. Now this was a subject on which no reliable statistics existed at the time. In *Phantasms of the Living* he had attempted an estimate of the frequency of such hallucinations among contemporary Englishmen from the data at his disposal. He had come to the conclusion that, whilst they are much commoner than one would have been inclined to believe, they are not nearly common enough to make it reasonable to regard those which turn out to be veridical as mere chance coincidences. But he was well aware that the question could never be satisfactorily settled until a direct statistical inquiry on a very large scale had been made in order to determine the frequency of such experiences, veridical and delusive, among the population.

Sidgwick was most anxious that such an inquiry should be carried out, both because of its extreme scientific importance and because it would round off the work of his dead friend and colleague. Accordingly he induced the S.P.R. to appoint a committee, consisting of himself, Mrs. Sidgwick, Myers, Podmore, and Miss Alice Johnson, in order to undertake a census by means of a questionnaire. The collection of statistics went on steadily between the spring of 1889 and that of 1894. It entailed an immense amount of very tedious work. Sidgwick introduced the subject to the Society in a special address on 8th July 1889, in which he explained the importance of the census, asked for volunteer collectors, and pointed out the precautions which ought to be taken. He gave a second address on the subject on 11th July 1890, in which he reports the progress already made, urges the members of the Society to fresh efforts, and comments on certain types of hallu-

ination which have been reported. In the summer of 1889 the Sidgwicks attended an international congress of psychologists at Paris. Owing to the presence of Richet, whom Sidgwick had first met in October 1885 and had greatly liked, there was much discussion on psychical research. The congress gave its sanction to a census of hallucinations on the same lines as that conducted in England by the S.P.R.

The S.P.R. committee published its final report in Vol. x of the *Proceedings*. It occupies about 400 pages and is a most masterly production. It was written mainly by Mrs. Sidgwick and Miss Johnson, in close consultation with Sidgwick himself. The upshot of the inquiry was as follows. About one visual hallucination in *sixty-three* occurs within a period of twenty-four hours round about the death of the person whose apparition has been 'seen'. If such death-coincidences were purely fortuitous concurrences of causally independent events the proportion would be about one in *nineteen thousand*. There is a most elaborate and careful discussion of the fallacies to which such statistics are liable, and a very clear and detailed statement of the precautions which the committee took to avoid them. Anyone who now argues airily on this subject without having studied this report is merely wasting his own and his hearer's time. Yet I venture to doubt whether so much as one *per cent* of the teachers and students of experimental psychology in this country have ever troubled to flutter the pages of what is, on any view, a unique and meticulously careful contribution to an important branch of their subject.

From the spring of 1885 onwards the Sidgwicks had from time to time taken part in experiments on thought-transference in connexion with hypnotized subjects. Sidgwick records visits to Brighton for this purpose on 22nd March and 4th July 1885. On 10th January 1887 he mentions the abortive conclusion of a week's investigation of a professional mesmerist, Mr. D., who pretended to transmit ideas to his mesmeric 'subject'. In spite of the fact that Mr. D. had been a French master in a school and had a brother who was a Cambridge graduate and a clerk in Holy Orders, he was detected by Richard Hodgson using a code which depended on the variations in the subject's breathing. A much more important series of hypnotic experiments was carried out in the summer of 1889 with Mr. G. A. Smith as hypnotist and telepathic agent, and two young clerks, whom he mesmerized, as telepathic percipients. The results of these experiments formed the subject of an article in Vol. vi of the S.P.R.'s *Proceedings*. The successes were altogether beyond chance, and in view of the precautions taken it is difficult to think of any normal explanation for them. Further experiments with the same hypnotist and the same subjects were

carried out by Mrs. Sidgwick and Miss Alice Johnson in the years 1890, 1891, and 1892. The report of them will be found in Vol. VIII of the *Proceedings*. The results are, in some respects, more remarkable, since successes well above chance were scored with Smith and his subjects in different rooms.

A sequel to these hypnotic experiments was the occasion for Sidgwick's last contribution to the *Proceedings*. Two Danish psychologists, Messrs. Lehmann and Hansen of Copenhagen, published in Wundt's *Philosophische Studien* a long paper describing their experiments on what they called 'involuntary whispering'. Now most of the work on transference of ideas which Sidgwick and his wife had done with Mr. Smith and his subjects was concerned with guessing two-digit numbers printed on discs which Smith drew from a bag and concentrated his attention upon. On the basis of the Copenhagen experiments Messrs. Lehmann and Hansen claimed to show that the degree of success scored by Smith's hypnotized subjects could be explained by supposing that Smith involuntarily whispered the numbers as he concentrated his attention upon them, and that his subjects were in a state of auditory hyperaesthesia.

As a matter of fact, the Sidgwicks had carefully considered this possibility and had discussed it elaborately in their first report in Vol. VI of the *Proceedings*. Moreover, in the second series of experiments, reported in Vol. VIII, a significant degree of success had been scored when Smith was out of the room and on a different floor from that occupied by the percipients. Nevertheless, Sidgwick thought that Messrs. Lehmann and Hansen's suggestions were important enough to merit serious attention, since they certainly threw fresh light on the hypothesis of unconscious whispering.

He began by repeating the experiments, in a somewhat simplified form, with his wife and Miss Johnson. They found that in all cases the whispering was completely *voluntary*, and they detected in themselves no trace of that tendency to *involuntary* whispering which the Danish psychologists had alleged to be the natural accompaniment of attempts to concentrate on a number. But they verified the Copenhagen claims to the following extent. They found that it was quite possible for a person *deliberately* to whisper in such a way that an observer who fixed his attention on that person's *mouth and lips* could neither see nor hear any signs of whispering at a distance of two feet. And yet, at a distance of eighteen inches between this person's mouth and a percipient's ear, the percipient could hear enough of the agent's whispering to score a considerable amount of success in his guesses. It is therefore reasonable to assume that, *if* the hypnotic agent whispered in this special

way, a hypnotized subject, in special *rapport* with him, might hear distinctly at a considerably greater distance without any sign of whispering being audible or visible to third parties. Sidgwick noted that if an observer directed his attention to the *neck and throat* of the whisperer, instead of his mouth and lips, the fact that whispering was taking place became obvious. Accordingly he undertook some further experiments with Smith, concentrating his attention on the latter's neck and throat without telling Smith that he was doing so. He used as percipient Mrs. Verrall, who had practised detecting whispering with Mrs. Sidgwick and Miss Johnson. The result was completely negative. Sidgwick could see no special movements in Smith's neck and throat, and Mrs. Verrall could hear no whispers coming from Smith.

Sidgwick published these results in an important note on 'Involuntary Whispering' which he contributed to Vol. XII of the *Proceedings*. After stating his experimental conclusions, he undertook an elaborate statistical analysis of the mistakes which had been made in guessing numbers in the hypnotic experiments and in Messrs. Lehmann and Hansen's researches. He claimed to show that the distribution of mistakes among the Copenhagen guesses closely resembled the distribution of mistakes among the guesses made by the English hypnotized subjects on their *unsuccessful* days, when their scores were plainly due to chance. He ascribed this similarity to a likeness in number-habits between the English and the Danish subjects. Whilst I accept Sidgwick's conclusion that it is most unlikely that the success of the hypnotic experiments can be explained by involuntary whispering, I am not altogether satisfied with his statistical argument and I should like to see the whole subject treated again by modern statistical methods which have become available since Sidgwick's day.

The rest of Sidgwick's activities in connexion with psychical research can be very briefly described. They were concerned with the physical medium, Eusapia Palladino, and the mental medium, Mrs. Piper. In the summer of 1894 Myers and Sir Oliver Lodge, in company with Richet, were investigating Eusapia at Île Roubaud. They wrote to Sidgwick stating that they thought they had got physical phenomena under test conditions. He and Mrs. Sidgwick therefore went out to France. The phenomena, as usual in their presence, became less striking, but at the time he was almost convinced that some of them were genuinely supernormal. In August 1895 Eusapia stayed at Myers's house in Cambridge and was subjected to an elaborate investigation. The Sidgwicks concluded that her phenomena were fraudulent, and that they were produced by a certain trick which was suspected at an early stage and was worked out in detail by Hodgson. It is significant that Eusapia

steadily refused to comply with conditions which would have excluded the use of this method.

The discovery of Mrs. Piper in Boston by Professor William James was the beginning of an important new stage in the development of psychical research and the work of the Society. Her mediumship has been of the utmost importance because it gave results which are quite certainly supernormal and which seem, *prima facie*, to be very difficult to explain without going beyond telepathy from the living. It is roughly true to say that Sidgwick's death happened at a transition point in the history of the subject. In the past were the comparatively straightforward problems of the experimental and statistical establishment of the transference of simple concrete ideas and emotions. In the future lay the subtle and complex problems of cross-correspondences, book-tests, and so on, in which we are still immersed. Mrs. Piper's mediumship is the connecting link between the two stages, and Sidgwick lived only long enough to participate in the very early phases of the investigation. Myers and others invited Mrs. Piper to England in the winter of 1889, and she stayed until the spring of 1890. Sidgwick took a prominent part in the investigations. He had no success in his own sittings with her, but he was much impressed by the experiences of some of his friends. Subsequent work with Mrs. Piper was mainly conducted in the U.S.A. under the direction of Richard Hodgson.

Mrs. Sidgwick survived her husband for many years and maintained up to the end her active interest in the Society and her invaluable work on the subject. We have her own authority for stating that, in her opinion, the evidence as a whole provides an adequate ground for believing that human beings survive bodily death. One would give a great deal to know whether the facts which became available after 1900 would have caused Sidgwick himself to accept so positive a conclusion.

Having supplied the reader with a fairly adequate history of Sidgwick's dealings with psychical research, I will now say something about the nature and extent of his contributions to the subject. His own estimate of his capacities is characteristically modest and accurate. It is recorded in an entry in his diary for 11th September 1884. He thinks that he has a mind much better qualified for seeing relations in the history of thought than for suggesting hypotheses in psychical research. 'I don't feel the least gift', he says, 'for making a legitimate hypothesis as to the causes of the phenomena, and I am too unobservant and unimaginative about physical events to be at all good at evaluating particular bits of evidence. . . . To tell whether a "psychical" experiment or narrative is good or not, evidentially, requires one to imagine with

adequate accuracy and exhaustiveness the various possibilities of "natural" causation of the phenomenon, and judge the degree of improbability of each. Nora is much better at all this than I am. . . .' This extremely high and very just appreciation of Mrs. Sidgwick's powers is reiterated on 2nd May 1894, where he says that his only reason for doubting whether she was right in accepting the Principalship of Newnham is that he fears 'that she may not find time for the work of the S.P.R.', for which, he says, 'I think her uniquely fit—much more fit than I am'. He thinks that in psychical research the one function that he can exercise is the judicial. 'I feel equal to classifying and to some extent weighing the evidence, so far as it depends on general considerations.'

Making due allowance for Sidgwick's natural modesty and generosity, I think that this estimate of his powers is essentially correct so far as it goes. His main contribution to psychical research did not consist in making ingenious experiments or suggesting fruitful and far-reaching hypotheses. It consisted in the weight which his known intelligence and integrity gave to the serious study of the subject, in the tact and patience with which he handled the very difficult team which he had to lead rather than to drive, in the extremely high standard of evidence which he inculcated both by example and by precept, in his courage and persistence in face of repeated failure when success seemed almost within reach, and in the general maxims which he laid down in his various addresses to the S.P.R. It will be worth our while to consider in some detail the teachings of Sidgwick's presidential addresses, for they are still highly relevant to contemporary conditions.

The first three are concerned with the *raison d'être* of the S.P.R., with certain criticisms which had been made on the very idea of such a society, and with the nature of the evidence which already exists and the further evidence which is required. When he occupied the presidential chair for the second period he devoted his first two addresses to a survey of the work of the S.P.R. since its beginning, an account of the modification which experience had shown to be necessary in the original plan of campaign, and an answer to certain criticisms to which it had been subjected from various quarters. His third presidential address of this period was explicitly concerned with the *Canons of Evidence in Psychical Research*.

According to Sidgwick the fundamental cause of the characteristic difficulty and controversy which attaches to psychical research is the fact that we are called upon to weigh one improbability against another. We have to balance the antecedent improbability of the events reported against the antecedent improbability that sane and respectable witnesses should be lying or should be deceived in relevant respects. Now there is no rule for estimating

the antecedent improbability of such events as the reported physical phenomena of mediumship, hauntings, telepathy, clairvoyance, etc. We have no means of telling what proportion the facts that we know about the 'habits' of matter and of mind bears to the facts of which we are still ignorant. As regards the reliability of witnesses and their reports there are some general rules. When normal people, with no obvious motives for deception, testify to quite *ordinary* events we do not raise questions about the probability of their testimony being false. But in the law courts, if the testimony of *two* such persons to a quite ordinary event conflicts, we do raise this question. For a precisely similar reason we must raise it when a witness, however intelligent and respectable, testifies to an *extraordinary event*. Now it is known that the main sources of error are the following: (1) alteration and heightening of a story that passes through a chain of narrators; (2) errors of memory even in first-hand reports; (3) failure to observe relevant details and tendency to mistake inferences for observations; (4) lastly, if another person beside the witness was present he may have produced an illusion in the witness's mind. Therefore we have to consider (*a*) any facts about the observer which might tend to make him the victim of an illusion, and (*b*) any facts about the second person which make it likely that he was able or willing to produce an illusion in the witness.

In Sidgwick's opinion two important consequences follow. In the first place, it is plain that in every case the probabilities can be only vaguely estimated, and in many cases they must be estimated differently by different people according to their knowledge of beliefs about the character of the persons concerned. Therefore great and irreconcilable differences of opinion are inevitable, and it is useless to bewail them and unreasonable to complain of the slow rate at which the subject progresses.

Secondly, all talk of 'crucial' experiments, 'knock-down' proofs or disproofs, 'completely water-tight' cases, is futile. We must make each individual experiment and report as 'water-tight' as we can, and we must go on accumulating more and more such cases. Neither quality alone nor quantity alone will produce conviction; nothing will do so except a constant stream of cases in which the evidence is of the highest quality.

Since this is a matter about which there is still frequent discussion in our Society, and since Sidgwick seems to me to have said exactly the right things about it, I propose to state his views in rather more detail. First, as regards quantity and the need for a constant supply of fresh cases. In no single case, Sidgwick says, can the admissibility of normal explanations be absolutely excluded. This is impossible 'even in the case of our own most conclusive

experiments, when regarded from the point of view of the outside public. For all records of experiments must depend ultimately on the probity and intelligence of the persons recording them; and it is impossible for us or any other investigators to demonstrate to persons who do not know us that we are not idiotically careless or consciously mendacious.' It is sometimes alleged that the S.P.R.'s demand for quantity shows that the quality of the available evidence is poor. This is not true. The quality of much of it is very good; it would be regarded without hesitation as conclusive if the alleged facts were not antecedently so improbable. The need for accumulating evidence is in order to swamp the antecedent improbability of the events to which it bears witness.

There are two other points which may conveniently be treated under this head of quantity. The first is a warning which Sidgwick gave to the Society soon after the publication of *Phantasms of the Living*. Many members were inclined then, and I suspect that still more are inclined now, to regard the case for spontaneous telepathy as established, and to think that it is not worth while to trouble to collect and investigate fresh alleged instances of it. Sidgwick pointed out the extreme folly of this tendency to be at ease in Sion. Unless a fairly constant stream of well-attested cases is produced sceptics will certainly argue as follows: 'On the basis of the statistics which you published in *Phantasms of the Living* and in the *Census of Hallucinations* there should be roughly so many fresh cases in England every year. If there were, you would, presumably, receive and publish a fair proportion of them. Since you do not, it is reasonable to suppose that they do not happen nearly so frequently as the Early Fathers of your Society alleged. And so the statistical case which they built up may be dismissed.' No doubt it is *logically* cogent to answer: 'We don't get such cases, simply because our members, regarding spontaneous telepathy as an established fact, don't bother to look for them, or to investigate those which are brought to their notice, or to report those which they have noticed and investigated.' But, though logically satisfactory, this answer is quite useless for the practical purpose of convincing sceptics.

The other point which may, with a little stretching, be brought under the head of quantity of evidence is the following. Critics in the very early days of the S.P.R. constantly said, as they constantly say now, that no experimental result will satisfy them unless it can be reproduced at will in the presence of any number of sceptical observers. To this Sidgwick makes the obviously sensible answer that, whilst we should all be delighted to have evidence of this kind, we have no right to assume that it must be attainable. (To take an example from important physiological work which has

been done since Sidgwick's day, it was only with enormous difficulty that Pavlov was able to secure such complete uniformity in the internal and external conditions of the animals on which he experimented that his experiments gave uniform results. And the presence of a stranger, or even of the experimenter himself, completely upsets the reaction of the animal, although this takes only the very simple form of salivation. It is at least as likely that thought-transference, if it happens at all, depends on a peculiar relation between agent and percipient which is very easily upset, as that the salivation of dogs in Pavlov's experiments is partly dependent on a whole complex of background conditions which can be kept constant only with great difficulty.)

We can now leave the subject of quantity and pass to Sidgwick's views about the quality of evidence which the S.P.R. should demand. He is perfectly clear that a mere accumulation of inferior evidence is of no use. In each single experiment, he says, 'we have done all that we can when the critic has nothing left to allege except that the investigator is in the trick. But, when he has nothing left to allege, he will allege that.' No evidence should be published until it reaches that degree of cogency. 'We must drive the objector into the position of being forced either to admit the phenomena as inexplicable, at least by him, or to accuse the investigators either of lying or cheating or of a blindness or forgetfulness incompatible with any intellectual condition except absolute idiocy.' These quotations are taken from Sidgwick's presidential address of 17th July 1882. He returned to the topic in his address of 10th May 1889, and I will quote one sentence from the latter. 'My highest ambition in psychical research is to produce evidence which will drive my opponents to doubt my honesty or veracity. I think that there is a very small minority of persons who will *not* doubt them, and that, if I can convince them, I have done all that I can do. As regards the majority even of my own acquaintances I should claim no more than an admission that they were considerably surprised to find me in the trick.'

There is one other remark made by Sidgwick which is worth mentioning because it still has constant application. In his presidential address of 18th July 1883, he refers to various normal explanations of ostensibly supernormal phenomena. After detailing these, and saying that every one of them is a *vera causa* which must be excluded before we can seriously consider any claim to supernormality, he proceeds to make the following highly pertinent remark. It is a very common fallacy to put forward a normal explanation which accounts very satisfactorily for nine-tenths of the phenomena of a certain kind, but fails to account for the remaining one-tenth which are equally well attested; and then

either to ignore this recalcitrant residue or to reject the reports of it and claim that one's normal explanation covers all the facts. As Sidgwick says: 'It is not a scientific way of dealing with testimony to explain what you can and say that the rest is untrue. It may be common sense, but it is not science.' He cites as an example Faraday's well-known explanation of table-turning. This is a valuable explanation of *most* of the phenomena. But there are well-attested stories of tables moving *without* contact or rising *wholly* off the ground, and, if a single one of these is true, Faraday's theory does not fit all the facts. It seems to me that Sidgwick here puts his finger on a besetting weakness of the late Mr. Podmore, and that that distinguished member of our Society has left spiritual descendants who are with us at this day.

No account of Sidgwick's dealings with psychical research would be complete if it ignored the ethical and religious motives which influenced him in taking it up and in persisting with it. I will therefore conclude my paper with a brief account of this factor in his life.

We must begin by reminding ourselves that Sidgwick was the son of a clergyman, that he was brought up as an Anglican Christian, and that it was not until his twenty-second or twenty-third year that he finally abandoned the idea of taking Orders. Next, we must remember that reports of miraculous events play two parts in Christianity, one being absolutely essential and the other useful but dispensable. Christianity differs from most of the other great religions of mankind in the following way. An essential part of its doctrine consists in propositions about the nature and unique status in the universe of *its own Founder*. Therefore certain miracles, such as his reported resurrection and his subsequent appearances to the apostles, are *parts of Christian doctrine*, and not merely parts of the *evidence for* Christianity. Other alleged miracles, such as those performed by Christ during His ministry or by the apostles afterwards, are in a different position. If every one of them were rejected, no single doctrine of Christianity would need to be modified in the smallest degree. The importance of these miracles, if genuine, is evidential. The fact that Christ was able to perform them, and that he was able to convey to His apostles the power to perform similar, if somewhat less spectacular, miracles, is held to be strong confirmation of the Christian doctrine about his unique nature and metaphysical status. Now in England, when Sidgwick was a young man, enormous stress was laid on the New Testament miracles as evidence for the truth of Christianity. But it is alleged by followers of other religions that similar miracles have occurred in connexion with them, by Roman Catholics that such miracles have continued in their Church without cessation from apostolic

times up to the present day, and by Spiritualists that they are happening here and now in mediumistic séances. These allegations placed the standard Protestant argument from the New Testament miracles in an extremely awkward dilemma for anyone as clear-sighted as Sidgwick. Either the New Testament miracles were unique or they were not. If they were unique, they would, no doubt, provide an unique support for Christianity against its rivals. But, in that case, the whole burden would ultimately rest on the trustworthiness of the stories recorded in the New Testament and the untrustworthiness of all the innumerable similar stories told in connexion with other religions and by contemporary Spiritualists. If they were not unique, it might be much easier to accept them as rare but not unparalleled phenomena. But then they could provide no *special* evidence for the truth of specifically *Christian* doctrine.

Sidgwick's earlier struggles, like those of most of his intelligent contemporaries, were to disengage himself from the first horn of this dilemma. He had been deeply impressed in 1862 by reading Renan's *Études d'Histoire Religieuse*, and he set himself to learn Hebrew and Arabic in order to make a comparative historical study of religion. In a letter to A. J. Balfour written in 1897, describing his position in the sixties, he says that what he then wanted in theology was that the evidences for historical Christianity should be examined with complete scientific impartiality 'as a duly instructed rational being from another planet (or, let us say, from China) would naturally weigh them'. Looking back, we can see that the result was a foregone conclusion. By the middle sixties Sidgwick had reached the position that no religion which depended on the correctness of historical statements about mysterious events in a foreign country and a remote period could possibly reach the evidential standard which he demanded. Writing to Dakyns at the end of 1864, he says: 'I have never before freed my innermost consciousness from the thralldom of a historical belief. Long after the belief had gone the impression remained that it was all important to have a view on the historical question.' Now he has reached the conclusion that there has been enough study of the Bible. What is needed is a comparative study of the mystical and of ecstasy; the remote past being always subordinated to the present.

In 1869 Sidgwick resigned his fellowship, but he stated at the same time, in a letter to Benson, that he had no desire to leave the Church of England. In 1870 he published a book on *The Ethics of Clerical Subscription*. His mature views on this subject are clearly expressed in a letter which he wrote in May 1881 to J. R. Mozley in answer to a question which the latter had put to him. He said that a layman could conscientiously be a member of the Church of

England, provided that he accepted the Apostles' Creed; but he added that no one could be said to accept this honestly unless he accepted the miraculous birth of Christ. Anyone who proposed to *take an office* which involved membership of the Church of England would be dishonest in doing so if he doubted this dogma, and no bishop could dispense him. If, on the other hand, it were merely a question of taking part in the *worship and the sacraments* of the Church of England as a private individual, a much laxer standard was permissible, and a bishop's permission might be highly relevant.

The religious position which Sidgwick had reached by the age of forty-two is very clearly stated in a letter which he wrote in the summer of 1880 to Major Carey, an old Rugbeian friend. The following are the essential points. It is now long since he could imagine himself believing Christianity after the orthodox fashion. He is not, indeed, inclined to reject the miraculous as such; but it is clear to him that, if you accept it in Christianity, you cannot reject it off-hand in other religions or in modern Spiritualism. For many years past he has not thought of Christianity except as the creed of his friends, fellow-countrymen, etc. As regards Theism, he says: 'I don't know whether I *believe* or only *hope* that there is a moral order in the universe . . . a supreme principle of Wisdom and Benevolence guiding all things to good ends and to the happiness of the good. I *hope* this. I don't think it can be *proved*. No opposed explanation of the origin of the cosmos—e.g. the atomistic theory—seems to me even plausible. And I cannot accept life on any other terms or construct a rational system of my own conduct except on the basis of this faith.' He recognizes that his correspondent might well say: 'The question is, not whether you would *like* to believe in God, but whether the belief is *true*.' To this, Sidgwick says, he would answer by asking the following question: 'What guarantee have you for the fundamental beliefs of science except that they are consistent and harmonious with other beliefs that we find ourselves naturally impelled to hold?' And he would continue to argue his case as follows. 'This is precisely the relation which I find to exist between Theism and the whole system of my moral beliefs. Duty to me is as real as the physical world, though not apprehended in the same way; but all my apparent knowledge of duty falls into chaos if my belief in the moral government of the world is conceived to be overthrown.'

His position, then, may be summed up as follows. We cannot make an intellectually coherent system out of the data of sense-perception unless we interpret them in terms of certain general principles, such as the Uniformity of Nature and the Law of Universal Causation, which go beyond them and cannot be proved inductively from them. We cannot make an intellectually coherent

system out of the data of our moral intuitions unless we interpret and supplement them in terms of Theism, which also cannot be proved from them. Now the latter data are as indubitable as the former, the demand for intellectual coherence is the same in both cases, and the principles required are not self-evident or capable of proof in either case. Logically and epistemologically there is complete parallelism. Either we have no right to make the postulate in either case or we have an equal right to make it in both. The one position which cannot be defended is to make the postulates demanded by science, and then, in spite of or even because of this, to refuse to make the postulates demanded by morality.

Some further very interesting information about Sidgwick's religious beliefs and doubts is contained in the letter of May 1881 to J. R. Mozley, which I have already quoted, and in another letter of 1890-1 to the same correspondent, who had showed him some letters from Cardinal Newman. In the former communication Sidgwick says that he is not prepared to admit that the experience of Christians that prayers for spiritual help are often answered is an adequate ground for believing in the objective reality of a sympathizing and answering Spirit. He also makes the following important point. We must distinguish, he says, between the following three questions: (i) *Has* Christianity in the past been beneficial or indispensable to human progress? (ii) Is it so *now* and is it likely to be so in future? (iii) Is it true? He thinks that there is very little logical connexion between the second and third of these questions. He would be prepared to admit that, if it could be shown that Christianity *would always* be indispensable to human progress, this would be a *prima facie* ground for thinking it likely to be true. But he sees no reason to believe that it always will be indispensable; though he is inclined to think that, if the general belief in it were to break down now or in the immediate future, the results would be disastrous.

In the second letter to Mozley he sums up his attitude to Christianity as follows. Some form of optimism is indispensable for progressive humanity as a whole, though not for every progressive individual. The theistic form of optimism is the most attractive and intelligible for most people. There is no adequate rational basis for *any* form of optimism; and so the theistic form is, in this respect, no worse off than any other. He thinks that theism will survive, because it is needed; and, if it does so, it will be because of the support which it still obtains among Europeans from the traditional belief in Christianity. For his own part, Sidgwick says, he 'has taken service with reason and has no intention of deserting'. But he confesses that, if he yielded to his hankering after optimism, it is likely that the last exercise of his reason would be to sub-

mit himself to the authority of the Church of Rome. If he were to submit himself to *any* external authority, he would have no hesitation, on broad historic grounds, in choosing the Roman Church.

One more quotation, this time from a note which Sidgwick wrote in 1895-6 to Lord Tennyson about his father's *In Memoriam*, must be given as illustrating his reflexions at the end of his life on the religious controversies of his early manhood. In the sixties, he says, men were absorbed in struggling for freedom of thought in the trammels of an historical religion. Now *that* struggle is over. 'Freedom is won, and what does freedom bring us to? It brings us face to face with atheistic science. The faith in God and immortality, which we had been struggling to free from superstition, suddenly seems to be *in the air*; and, in seeking for a firm basis for this faith, we find ourselves in the midst of the "fight with death" which *In Memoriam* so powerfully presents.'

We have now before us a fairly clear picture of Sidgwick's religious struggles and their outcome. Most intelligent and conscientious Englishmen of his generation went through similar struggles, but hardly any of them came out by the same gate as Sidgwick. Some took the path which Sidgwick tells us he was tempted to follow, and elected to 'open their mouths and shut their eyes' and swallow whatever the Pope might give them. A few, such as Frederic Harrison, who wanted the jam of Catholicism without the powder of Christianity, joined the Comtist Church, at one of whose reunions Huxley found 'three persons and no God'. Many more, of whom Huxley himself and W. K. Clifford were the most distinguished examples, found spiritual satisfaction in a kind of revivalistic agnosticism accompanied by much vigorous banging of the ethical tambourine. (Clifford's solemn excommunication of the eminent scientists who wrote the *Unseen Universe*, and the exquisitely pompous *ex cathedra* pronouncement 'The world is made of atoms and ether, and there is no room in it for ghosts', may still be enjoyed as perfect examples of what Jeremy Bentham called 'nonsense on stilts' and may still be used as warnings against attaching too much weight to the pontifications of contemporary scientific pundits.) Others, again, contrived to muddle themselves into a kind of Hegelian Christianity, in which everything turned into its opposite, and Materialism and Mentalism were resolved into a higher synthesis in the glow of which one felt it to be crude and ungentlemanly to raise concrete questions about historical events and contemporary phenomena.

It is noteworthy that all these exits, except the ever-open *atri janua Ditis* which Sidgwick was tempted and declined to take, are now utterly out of date and closed to contemporary men. It is inconceivable that any intelligent and instructed Englishman at the

present day should find a solution of his religious or philosophical perplexities in Comtism, in revivalistic Agnosticism, or in Hegelianized Christianity. This suggests that Sidgwick's insight was deeper and his purview wider than those of his contemporaries, since they prevented him from accepting those solutions which satisfied so many of them and which can now be seen to have been delusive. But, it may be said, Sidgwick's own attitude (it cannot be called a 'solution') is just as much dated and just as impossible for ourselves as the alternatives which he rightly rejected. I shall make no attempt to discuss this very large question as a whole; but I will conclude my paper with some remarks on that part of it which is specially relevant to our subject, viz. the connexion between Sidgwick's religious and philosophical position, on the one hand, and his interest in psychical research on the other. In what follows I shall be stating my own opinions, and I shall be doing so dogmatically for the sake of brevity; but I believe that Sidgwick would have accepted them, in outline at any rate, and that a good case could be made out for them.

The physical data supplied by normal sense-perception and the mental data supplied by the introspection and observation of normal waking persons are the bases on which the whole system of natural science, including psychology, is built. In this vast coherent system there is not a single fact to suggest that consciousness ever occurs except in intimate connexion with certain highly specialized, complex, and delicate material systems, viz. the brains and nervous systems of living organisms. There are innumerable facts which show that, during the life of an organism, the nature and degree of consciousness associated with it vary concomitantly with the general health and the special physiological processes of that organism. If we confine our attention to this aspect of the case, we receive an overwhelming impression that consciousness is utterly and one-sidedly dependent, both for its existence and for its detailed manifestations, on brains and nervous systems and on processes in them.

When the philosopher comes to reflect on what the scientific specialist tends to ignore while he is engaged in his professional business, viz. the fact that the human individual is not only an object to be observed but is also the experimenter who devises tests and deliberately carries them out and the theorist who speculates and infers, he finds it very difficult to fit the two aspects of the whole into a single consistent picture. He also notices that no scientist, even when occupied in doing his professional work, ever regards himself or his colleagues for an instant as 'conscious automata'. Plainly there is some very thin ice with some ominous cracks in it.

Still confining our attention to perfectly normal phenomena whose occurrence no one would question, we notice that each of us, beside perceiving, acting upon, and thinking about the external world of material things, is constantly engaged in reflecting upon the actions, thoughts, desires, and emotions of himself and his fellow-men, and in making judgments about them which involve such predicates as 'right' and 'wrong', 'good' and 'evil', 'valid' and 'invalid', 'true' and 'false'. Such judgments are organized into more or less coherent systems with characteristic principles of their own, which are formulated in ethics and in logic. These facts about human nature are not particularly easy to unify with that 'conscious automaton' view of it which seems to be forced on us when we confine our attention to the aspects which are studied by the natural sciences.

At this stage we may, perhaps, be emboldened to put the following question to ourselves. Need we feel the slightest surprise at the palpable inadequacy of the account of human nature supplied by natural science? Natural science is concerned *only* with the data of human sense-perception, and, for most purposes, only with the data supplied by the two senses of sight and touch. Even within this extremely limited region there is a further selection. It deals only with a normalized extract from the visual and tactual sense-data of normal waking men. Quite rightly, for its own purposes, it ignores the peripheral and the abnormal, the sense-data of dreams, of delirium, of persons under hypnosis, and so on. Since men are not merely sensitive beings, and since their peripheral and abnormal sense-data are just as genuine as their central and normal ones, why should one expect that an account of human nature based exclusively on this extract from an extract will be adequate? Echo, so far as I can judge, answers Why?

So far, it seems to me, we can get without going beyond common-sense reflexion on universally admitted facts and without making any appeal to ideals or emotions. The next step is as follows. We all know that in the past claims have been made by various persons to have had *supernormal* experiences, in which they either gained knowledge of ordinary facts under extraordinary conditions or had revealed to them facts about the nature and destiny of mankind which could not be known by ordinary means. We also know that such claims are made by or for some of our contemporaries. If such claims related solely to the remote past, and if there had been no independent reason to question the adequacy of the account of human nature based on natural science, these stories might reasonably have been dismissed with a smile or a sigh. But, in the actual situation, there is a clear call to investigate such claims with scrupulous care when they are made by those of

our contemporaries who cannot be summarily dismissed as knaves or fools. If any such claims by them should survive investigation, we may have to view certain stories about the past with a less sceptical eye.

Suppose, now, that we should find, as a result of our investigations, that some at least of the claims to supernormal knowledge of ordinary facts are valid. This would not, of course, have any *direct* tendency to show that any human mind existed before or will exist after the death of its present body. Indeed, as members of the S.P.R. know full well, it may weaken the force of arguments for that conclusion based upon mediumistic communications. Nevertheless, it would have an *indirect* bearing on the question of pre-existence and survival. For a great part of the difficulty of any argument in support of this conclusion is the enormous weight of antecedent improbability which it has to overcome. Now this antecedent improbability is largely dependent upon the belief that every known activity of the human mind in life is correlated point to point with some process in the brain and nervous system. If the occurrence of extrasensory perception were established, we should have positive empirical grounds for doubting this assumption. Our view of the nature of the human mind and its relation to its organism would be profoundly modified, and this modification might well reduce the antecedent improbability of its existing in the absence of its present body.

We come now to the last step, and here, for the first time, there is a reference to ideals and aspirations. It seemed to Sidgwick, and it seems to me, that, unless some men survive the death of their bodies, the life of the individual and of the human race is 'a tale told by an idiot, full of sound and fury, signifying nothing'. I cannot understand how anyone with an adequate knowledge of physics, biology, psychology, and history can believe that mankind as a whole can reach and maintain indefinitely an earthly paradise. Such a belief is a sign of amiability in the young; but of imbecility, ignorance, or wilful blindness in the mature. I am not suggesting for an instant that survival is a *sufficient* condition of any great good; it is obvious that the world might be infinitely worse with it than without it, as it would be, e.g., if the majority of men survive only to be tortured unendingly in Hell. All that I maintain is that it is a *necessary* condition if the life of humanity is to be more than a rather second-rate farce. I do not desire to survive myself; so far as I can judge, it would be an immense relief to me on purely selfish grounds to be assured of mortality, and I am not altruistic enough to bother very much about the fate of the rest of the human race in my absence. But Sidgwick was a man of noble character and high ideals, with an overmastering sense of duty and the courage

to face suffering and unpopularity in doing what he believed to be right. That such a man should strongly desire survival for himself and his fellow-men, as the *conditio sine qua non* of the seriousness and worth of human life, was inevitable. And it was natural that, in desiring it, he should seek for evidence of it in the one corner in which it seemed to him that evidence might still conceivably be found.

I suppose it is inevitable that some clever fool should triumphantly remark that the fact that Sidgwick approached the subject from this angle and with these desires discounts the value of his work in psychical research. It should be a sufficient answer to point out that in fact Sidgwick reached a purely negative conclusion about the evidence provided by psychical research for human survival. And, if I may pass from the particular to the general, I would conclude with the following observation. A conscientious and critical person who realizes the immense importance of human survival is much more likely to weight the scales against *prima facie* evidence for it than to accept such evidence lightly. His desire that it may be true, and that it may be proved to be so, will indeed make him persevere and constantly return to the attack after each set-back and disappointment. This effect it did have on Sidgwick. But he will be so anxious lest his desires should trick him into accepting fairy gold that he will be in some danger of rejecting real gold if it should ever be offered to him.

IMMANUEL KANT AND PSYCHICAL RESEARCH

Historical

IT is plain that at a certain period of his life, viz. in the sixth decade of the eighteenth century, Kant became interested in the experiences and speculations of another Immanuel, the Swedish seer Swedenborg. At that time Kant was about forty years old. He had begun to lecture as *privat dozent* in the university of Königsberg in 1755 or 1756, and he did not become professor until 1770. He had already thought and written much about physics, astronomy, and geography, and had devoted himself to the old-fashioned metaphysics in which he had been brought up. But the system of 'Critical Philosophy', for which he was to become world-famous, was still in the future. The first sketch of it is contained in his inaugural dissertation on becoming professor in 1770.

Swedenborg was seventy-two in 1760. The only work of his to which Kant refers is the *Arcana Coelestia*. This had been published anonymously in London by John Lewis of Paternoster Row in eight large quarto volumes from 1749 to 1756. According to Signe Toksvig, Swedenborg's recent biographer, the authorship was first acknowledged in 1768. Presumably it had been an open secret for some time; for Kant, in a work published in 1766, takes it for granted that Swedenborg is the author, and makes no suggestion that the *Arcana Coelestia* was anonymous.

So far as I am aware, there are two and only two known writings of Kant which are concerned with Swedenborg and his doctrines.* One is a letter to Miss Charlotte von Knobloch, the other is a book entitled *Träume eines Geistersehers erläutert durch die Träume der Metaphysik*. The 'Geisterseher' is Swedenborg. The letter contains about 1,900 words, the book about 20,000. Kant lacked the art of condensation; he was, to put it plainly, terribly long-winded. The letter abounds in stilted compliments, and the book in elephantine badinage.

(1) *Questions of dating*. The book was published anonymously in Königsberg and in the same year in Riga by another publisher.

* But see Postscript, p. 14f *et seq.*

There is no doubt that the date of publication was 1766. But there is a serious muddle about the date of the letter, which I will now briefly consider.

The letter appears to have been first published by Kant's biographer Borowski, and it was alleged to be dated 'Königsberg, 10 August, 1758'. It is printed with that date in Vol. II of Hartenstein's edition of Kant's works. But, unless Kant was an even more remarkable seer than Swedenborg himself, this date is impossibly early. Hartenstein's attention was called to the point, and in the preface to Vol. III he discusses the question of the correct date. He quotes arguments by Kuno Fischer and Ueberweg which seem to show conclusively that it must have been 1763.

We need not go into elaborate detail, but the following fact suffices to make any date earlier than 1762 impossible. Kant refers in the letter to an incident in which Swedenborg seemed to show supernormal knowledge of a matter private to a certain princess in Stockholm. There is no doubt that this lady was Lovisa Ulrika, sister to Frederic the Great and wife to King Adolf Fredrik of Sweden. Now in his book, in which he also refers to this incident, Kant says that it happened late in 1761. This statement has been confirmed by the fact, which came to light many years later, that the Swedish courtier, Count Tessin, recorded the incident in his diary on 18th November 1761 as having happened three days earlier. (My authority for this is Signe Toksvig's book.) It is plain, then, that news of it cannot have reached East Prussia much, if at all, before the beginning of 1762. Moreover, in his letter to Miss von Knobloch, Kant says that he had learned the story from a friend, that they had corresponded about it, and that he had instituted various inquiries. All this would plainly take some time.

I think that we may accept the arguments of Fischer and Ueberweg to show that the letter to Miss von Knobloch cannot have been written before 1763. Hartenstein states and adduces evidence that she married in July 1764 and became Frau von Klingsporr. Now Kant addresses her in the letter as '*gnädiges Fräulein*', which would have been absurd if she had been married at the time. So we may take it that the letter was written some time in 1763, i.e. about three years before the publication of the book.

We do not know precisely when the book was written, but I think that it is certain that it was written after the letter. In the letter there is no suggestion that Kant has read any of Swedenborg's writings. He says that he is eagerly awaiting the appearance of the book which Swedenborg is about to publish in London, and that he has made arrangements to get it as soon as it leaves the press. Now it is certain that Kant had carefully read Swedenborg's *Arcana Coelestia* before writing *Träume eines Geistersehers*. So

it is reasonable to conclude that he wrote the latter book some time after 1763 and some time before 1766.

I have gone in some detail into the question of the relative dates of writing the letter and the book, for the following reason. Where the contents of the two overlap they seem to express a very different attitude towards Swedenborg and his alleged supernormal gifts and achievements. The letter is rather strongly favourable, whilst the book is completely agnostic in its conclusions and decidedly sneering and condescending in tone. In view of the fact that the book must have been written after, and cannot have been written long after, the letter, this contrast is of some interest.

I will now give a general account of the contents of the two writings.

(2) *The Letter*. It is plain that Miss von Knobloch had written to Kant some time before, to ask his opinion about a story which she had heard concerning a certain display of ostensibly supernormal knowledge on Swedenborg's part. It is evident from the context that the story concerns Queen Lovisa Ulrika's letter to one of her brothers, and it will be as well at this point to give an account of the events from independent Swedish sources which were not available to Kant or to Miss von Knobloch. In what follows I base my statements on Signe Toksvig's book on Swedenborg.

Count Tessin, a Swedish nobleman connected with the court at Stockholm, kept a diary, which has since been published. On 18th November 1761 he made an entry to the following effect. A story had been going around Stockholm concerning a recent feat of ostensible clairvoyance performed by Swedenborg with reference to the queen. Tessin asked Swedenborg for the details on November 18th. Swedenborg thereupon gave the following account to Tessin. About three weeks earlier he had had a conversation with the king and queen, and had told them of some of his experiences in confirmation of his theories. The queen asked him jokingly to try to bring her a message from her dead brother (the late Prince of Prussia), if he should happen to meet him in the spirit-world. On the Sunday before November 18th Swedenborg again presented himself at the palace and asked for an audience with the queen. He then told her something privately, which he had been enjoined not to mention to anyone else. The queen was much moved, and exclaimed: 'That is something which no one could have told except my brother!' On his way out, Swedenborg said, he met Councillor von Dalin and asked him to inform the queen that he would try to follow up the matter further for her.

So far Swedenborg's story to Tessin. He added that the queen had had a great shock, and that he would not venture to disturb her again until at least ten or twelve days had gone by.

Tessin, on his own account, states that the queen's consternation at Swedenborg's message is testified by all who were present. He mentions in particular Councillor Baron von Scheffer. He adds that the queen's account of the incident tallies with Swedenborg's, and that she has herself put Swedenborg to a new test. It should be mentioned that there is no evidence that Swedenborg ever did approach her again on this topic. It is, however, alleged (on what evidence I do not know) that, whenever she was asked about the incident in later life, she either acknowledged the truth of the story or changed the subject in an embarrassed way.

Signe Toksvig states that, after the queen's death, Count A. J. von Höpken, a Swedish statesman and friend of Swedenborg's, wrote an account of the incident. It appears from what he says that the queen had been carrying on a secret correspondence with this brother, notwithstanding that Sweden and Prussia were at war with each other at the time. Höpken's story is that the message which Swedenborg delivered referred to the last letter written by the queen to her brother before his death. Swedenborg, who claimed to have made contact with the spirit of the deceased prince, conveyed an apology from him for not having answered the letter and an appropriate reply to it. According to von Höpken, the queen said: 'No one but God knows this secret!'

We can now return to Kant and Miss von Knobloch. Kant begins by apologizing for his delay in answering her inquiry. He says that he thought it desirable to investigate the matter further before writing. He states that he is by no means inclined to accept such stories lightly. He thinks that it is a sound rule to take a negative attitude towards even the best-attested of them. He does not indeed deny the *possibility* of such alleged facts, for we know so little about the nature of a spirit, if such there be. But he thinks that, taken as a whole, such stories are not adequately attested. Then, again, the alleged phenomena are so unintelligible, and, even if genuine, so useless, that it is hard to accept them. Lastly, there are so many instances of proved fraud and credulity. Kant sums up this part of his letter by saying that, until he became acquainted with the stories about Swedenborg's facts, his attitude towards alleged supernatural phenomena was completely negative.

He then proceeds to tell how he was brought in touch with these stories, and how he tried to investigate them.

(i) *The Queen's Letter*. This incident was first brought to Kant's notice by a Danish officer, a friend of his who had formerly attended his lectures. The account given by this Danish officer to Kant was as follows. (I shall add explanatory historical notes in *square* brackets. They are based on statements in the preface to Vol. III of Hartenstein's edition of Kant's works.)

The Austrian ambassador in Copenhagen, Dietrichstein [who held office from 1756 to 1763], received a letter from Baron von Lützw, the ambassador from Mecklenburgh to the court of Stockholm. In this letter von Lützw stated that he, together with the Dutch ambassador to Stockholm, had been present at what Kant calls 'the curious history which you' (Miss von Knobloch) 'have already heard concerning Swedenborg'. (I take this to mean that the two ambassadors had been present at the queen's reception when Swedenborg made his communication to her.) Dietrichstein in Copenhagen had either read or shown this letter to the Danish officer and other guests at a party.

Kant says that he thought it unlikely that one ambassador would send to another a false account of an incident concerning the sovereign to whose court he was attached, and would moreover send it in a letter intended to be communicated to others. He therefore wrote to the Danish officer and made further inquiries of him.

The officer said in his answer that he had again spoken to Dietrichstein on the matter, that the facts really were as stated, and moreover that Professor Schlegel had assured him that there was no possibility of doubt. (I do not know what weight, if any, is to be attached to this confirmation by Schlegel. It must be regretfully admitted that 'what the Professor said' is not, as such, evidence.) The officer added that he was about to depart to the army under General St. Germain, and he advised Kant to write directly to Swedenborg. [St. Germain became a Danish field-marshal in 1760. The Danish Army was mobilized in 1762 to meet a threatened attack by the Tsar Peter III.] Kant accordingly wrote to Swedenborg, and the letter was handed in by an English merchant in Stockholm. Swedenborg had received the letter favourably and had promised to answer it, but no answer had as yet come.

So much for the Danish officer. In the meanwhile Kant had made the acquaintance of a certain Englishman who had been in Königsberg in the summer before the date of writing. Kant describes him as 'a fine man', says that he had become very friendly with him, and obviously has great confidence in him. This Englishman was about to visit Sweden, and Kant asked him to go into the whole question of Swedenborg's alleged marvels while there. (Signe Toksvig seems to assume without question that this man was Kant's great friend, the English merchant Green. I do not know if there is any evidence for this. No name is given to him in the letter.)

The Englishman did as Kant had asked him and wrote to Kant several letters describing his investigations and impressions. In his first letter he said that the statements of all the most distinguished

persons in Stockholm supported the story about Swedenborg and the queen. He had not yet met Swedenborg, but hoped to do so shortly. He found it hard to believe the stories which highly sensible persons in Stockholm were telling about Swedenborg's intercourse with the unseen world.

In later letters the Englishman said that he had met Swedenborg and had been in his house. He describes the seer as a pleasant open-hearted man and a scholar. Swedenborg told him that God had given him the power to communicate at will with departed spirits, and he appealed to quite notorious evidence in support of this. When reminded of Kant's letter to him, Swedenborg said that he had received it. He was going to London in the May of that year and would there publish a book in which a complete answer to Kant's questions would be found. (According to Signe Toksvig, Swedenborg visited Amsterdam in 1762 and again in 1763. He was in England on a short visit in 1763, during which he delivered copies of his printed books to the Royal Society. But he did not visit England in 1762 and he published no such book as he had spoken of to the Englishman.)

Kant then proceeds to relate, on the evidence of his English friend, two other stories of ostensibly supernormal cognition on Swedenborg's part. These are the incidents of the lost receipt for Mme de Marteville's silver tea service and of the fire on Södermalm in Stockholm. They are well known and often quoted; but, so far as I am aware, there is no extant evidence for them except this letter of Kant's, quoting statements from letters of his unnamed English correspondent. Kant says in his letter to Miss von Knobloch that 'the whole living public' is witness to these events, and that his friend, who relates the stories, 'has been able to investigate them on the spot'. I will now reproduce Kant's account of these two incidents as reported by his English correspondent.

(ii) *The Lost Receipt.* M. de Marteville was ambassador from Holland at the court of Stockholm. [He died 25th April 1760.] Some time after his death the goldsmith Croon demanded from the widow payment for a silver service which her late husband had bought of him and which had been duly delivered. She was convinced that the bill had been paid; but she could not find the receipt, and was in considerable distress, as the sum was a large one. She invited Swedenborg to call, explained the circumstances to him, and asked him to try to get in touch with the spirit of her husband. Three days later Swedenborg called on Mme de Marteville at a time when she had company to coffee. He said that the receipt was in a certain bureau upstairs. She answered that this was certainly a mistake, for that bureau had been cleared out and thoroughly searched and the receipt was not among its contents.

Swedenborg answered that, if she would pull out the left-hand drawer, she would notice a certain board. If this were pulled out, a secret compartment would be disclosed, containing not only the receipt but also the late ambassador's private Dutch correspondence. The whole company adjourned to the room, the drawer was opened, and everything was found as Swedenborg had foretold.

Two points are worth mentioning. In the letter the name of the ambassador is given as 'Harteville', but in the book it is given correctly as 'Marteville'. The second point is that, if the incident happened at all, it must have done so in the latter part of 1760. If the correct date of Kant's letter is 1763, his friend was presumably in Stockholm some time in 1762. So about two years would have elapsed between the incident itself and the Englishman's inquiries about it.

(iii) *The Stockholm Fire*. Kant says that this story seems to him to have the greatest probative force of them all, and that it is free from all possible doubt. He gives the date as 'towards the end of September 1756'. Dates seem not to have been Kant's strong point, for in *Träume eines Geistersehers* he assigns it 'towards the end of 1759'. Hartenstein gives the date of the fire as 19th July 1759, and quotes as his authority p. 77 of Part 121 of a German periodical called *Neue genealogische-historische Nachrichten* for 1760. It would be worth while, if it has not already been done, for some Swedish investigator to inquire whether there is any contemporary account of the alleged incident in public or private records either in Stockholm or in Göteborg. It should be remarked that serious fires were very common in Swedish towns, which were largely built of wood, and that presumably Stockholm was no exception. It should also be noted that the distance between Göteborg and Stockholm is about 285 miles by the present main-line railway.

The story in Kant's letters is as follows. Swedenborg landed at Göteborg from England at 4 p.m. on a certain Saturday. He was invited by a Mr. Wm. Castell to dine at the latter's house with a party of fifteen persons. At about 6 p.m. Swedenborg left the company for a short while and returned looking pale and alarmed. He said that a dangerous fire had broken out on Södermalm in Stockholm, where his own house stood. He was restless and went out several times. He said that the house of a certain friend, whom he named, was already in ashes, and that his own was in danger. At 8 p.m. he again came in after a short absence and said that the fire had been quenched at the third door from his house. These statements of Swedenborg's were reported the same evening to the Governor of Göteborg. Next morning, i.e. Sunday, the Governor interviewed Swedenborg, who described the fire in some detail and

said how it had begun and how long it had lasted. On the Monday evening came a messenger, who had left Stockholm on the Saturday while the fire was going on. He brought letters with him, in which the fire was described in a way which tallied with Swedenborg's statements. On the Tuesday morning the royal courier from Stockholm arrived at the Governor's house with a precise account of the damage and a statement that the fire had been put out at 8 p.m. on the Saturday.

Kant says that his English friend has investigated all this, not only in Stockholm, but also during a stay of about two months in Göteborg, where he is acquainted with the chief business houses. Kant adds that, in the short time which has elapsed since 1756, most of the eye-witnesses are still alive. (If the correct date is 1759, the time-lapse is considerably shorter, for the English friend was presumably in Sweden in 1762.)

Kant ends his letter to Miss von Knobloch by mentioning that his English friend has told him something of Swedenborg's accounts of his intercourse with the spirits of the dead and of conditions in the spirit world. Kant says that he wishes that he could himself have interrogated Swedenborg on these matters, because his English friend is not skilled in framing and putting those questions which would throw most light on essential points.

(3) *Träume eines Geistersehers*. We can now leave the letter and consider the book. This is a very curious production in itself. Moreover, a comparison of it with the letter raises interesting, but perhaps insoluble, questions about Kant's motives for writing it at all, for publishing it anonymously, and for adopting towards the subject in general and Swedenborg in particular the bantering contemptuous attitude which he does adopt.

The book begins with a preface, and the rest of it is divided into two parts. Part I, which is subdivided into four sections, may be described as an able and elaborate general discussion of the philosophical problems involved in the notion of a disembodied spirit, of a world of such spirits, and of the relations of body and soul in human individuals, and in claims by certain men to be in touch with the inhabitants of the spirit-world. It is not directly concerned with Swedenborg or his experiences. Part II is subdivided into three sections. The first of these repeats the three stories of Swedenborg's alleged feats of ostensibly supernormal cognition which were discussed in the letter. The second section contains an elaborate account of the doctrine as to the nature and laws of the spirit-world which Swedenborg professed to have derived by personal observation and from conversations with spirits. This account is based upon the contents of the eight quarto volumes of *Arcana Coelestia*, which Kant had bought and evidently studied carefully.

So far as I can judge, Kant's synopsis of Swedenborg's main doctrines is adequate, accurate, and clear. The third section is entitled 'Practical Conclusion of the Whole Treatise'. The practical conclusion is, roughly, that we should cultivate our gardens, and not waste our time with either what metaphysics or what self-styled mediums claim to tell us about the spirit world. Speculation about that world is fruitless. It can give no support to genuine morality, whilst, on the other hand, any morally good man feels assured of human survival without recourse either to metaphysics or to alleged mediumistic evidence.

I will now consider in somewhat greater detail the part of the book which covers the same ground as the letter, viz. Part II, Section I. In the letter, as we have seen, the story of Queen Lovisa Ulrika's interview with Swedenborg about her brother is told on the authority of the Danish officer reporting a letter from von Lützow in Stockholm to Dietrichstein in Copenhagen. The other stories are told on the authority of the Englishman, who has interviewed Swedenborg and investigated the evidence for the tales of his exploits at Kant's special request. The impression which one gets from the letter is that Kant was satisfied with the evidence, at any rate as regards the Stockholm fire.

In Part II, Section I of the book Kant introduces the topic by saying that 'the whole question is neither important enough nor sufficiently well prepared to enable one to come to any decision about it', and that he presents these stories 'with complete indifference to the favourable or unfavourable judgment of the reader'.

As regards the story about Queen Lovisa Ulrika, he does not mention her by name, but speaks of her as 'a princess . . . whose great intelligence and insight would make it almost impossible that she should be deceived in such matters'. The authority for the story is stated to be a letter from an ambassador at her court to another ambassador in Copenhagen. Kant adds that the story agrees with what has been elicited in answer to special inquiries. There is no mention of the Danish officer, but Kant is no doubt referring to his correspondence with him.

The story about the missing receipt is now correctly referred to Mme de 'Marteville' instead of 'Harteville'. Kant now says that this tale 'has no other testimony than common report, which is very inadequate proof'.

As regards the story of the Stockholm fire, Kant says that it is 'of a kind which could very easily be completely proved or disproved'. At the end of this section, after a great deal of palaver, he says that it would be worth while for anyone, who had money enough and nothing better to do, to go and investigate these and similar stories at first hand. He gives no hint that a friend of his, of

whom he has a very high opinion, has personally investigated the evidence for the story of the Stockholm fire both in Stockholm and Göteborg; that this friend was persuaded of its truth; and that Kant himself, in a recent letter dealing expressly with this topic, had described the story as free from all possible doubt. In fact, the Englishman, who first brought the second and third of the stories to Kant's notice, and who had investigated the whole question of Swedenborg's alleged supernormal feats at Kant's special request, is never mentioned in the book. Kant does indeed admit, in the preface, that he himself has made some investigations into the truth of such stories. But he almost apologizes for having done so, and he asserts that he 'found—as is usual where there is nothing to seek—nothing'.

Towards the end of Part I, Section IV, Kant says that he would not venture to deny all truth in such stories. He doubts each severally, but is inclined to give some credence to them taken collectively. He remains 'serious and undecided' in view of them. Nevertheless, he ends this section by saying that for the future he will 'abandon investigations which are altogether in vain'. (This remark, in view of its place in the book, may refer rather to the metaphysical speculations about spirits in Part I than to the alleged empirical evidence in Part II.) Towards the end of his synopsis of Swedenborg's teachings about the nature and laws of the spirit world (Part II, Section II) Kant says that one might be inclined to attach some weight to his unverifiable statements about the next world, if and only if one could appeal to testable instances of alleged supernormal knowledge by him, and if one were to find that they are supported by living witnesses. 'But', Kant adds, 'this one never finds.' How this last remark is to be reconciled with statements which I have quoted from Kant's letter to Miss von Knobloch, I do not profess to conjecture.

At this point we may well ask ourselves what Kant's motives could have been for writing and publishing *Träume eines Geistesehers*. In the preface he gives two reasons. One is that he wrote the book at the instigation of friends, known and unknown. Towards the end of Part II, Section II, he repeats that he was put on to this thankless task through the importunities of idle and curious friends. From their point of view the inquiry has led to nothing and has been mere waste of time. The second reason which he gives in the preface is that he had bought and read through a big book, viz. Swedenborg's *Arcana Coelestia*, and did not want all his work to be wasted. Early in Part II, Section II, he describes this book as consisting of 'eight quarto volumes of nonsense'. Later in the same section he remarks that he has saved the curious reader from spending £7 sterling in satisfying a little idle curiosity.

Obviously these cannot have been Kant's main motives. He was not at all a wealthy man and he was a very busy one. It is most unlikely that he would have spent £7 on the *Arcana Coelestia* and then ploughed through it and given a careful synopsis of its teachings about the spirit world merely to satisfy the idle curiosity of some or to save the pockets of others. We must remember the statement in the letter to Miss von Knobloch that he is impatiently awaiting the book which Swedenborg is about to publish in London and that he has made arrangements to get it as soon as it leaves the press.

I would suggest very tentatively that what may have happened is this. Instead of getting the book which he was expecting, viz. an account by Swedenborg of those of his ostensibly supernormal cognitions which were open to verification in this world, together with adequate testimony for them, he was landed with the eight volumes of the *Arcana Coelestia*. This is largely occupied with an elaborate symbolic interpretation of every word and sentence in the books of Genesis and Exodus. It may fairly be described as one of the most boring and absurd productions of any human pen. After reading it Kant may well have been inclined to dismiss with contemptuous impatience the alleged supernormal feats of a person who could devote a large part of his life to writing such stuff, and to ignore the fact that he himself had very recently been fully persuaded of the veridical nature of some of them, through the testimony of the Danish officer and the English friend. It was as if one had heard on very good evidence that Mr. X had made certain bold but highly ingenious emendations to difficult passages in classical texts, and had then found that he was a British Israelite whose published works were mainly devoted to proving, by help of measurements on the Great Pyramid, that the earth is flat and that Bacon wrote all the works commonly attributed to Shakespeare. If Kant could have picked up Swedenborg's *De Coelo et Inferno*, a single volume published in London in 1758, he would not indeed have got what he was expecting, but he would have found a tolerably succinct account of Swedenborg's doctrine of the spirit world, and would have been saved much time and money and justifiable irritation.

However this may be, Kant says explicitly that he had a different end in view from that of the friends whose idle curiosity set him upon writing the book. His subject is metaphysics. That science has two functions. One is to try to answer the questions which inquiring minds raise when they seek to investigate by reason the more deeply hidden properties of things. The other is to consider whether such questions are concerned with anything that we can possibly know, and to see what relation they bear to our empirical

concepts, on which all our judgments must ultimately be founded. The essential service which it renders in its second capacity is to show that we must keep within the bounds of ordinary sense-perception and ordinary reasoning. The upshot of the book is to reinforce that conclusion in reference to claims, such as Swedenborg's, to empirical knowledge beyond those limits.

Lastly, we might raise the question: Why did Kant publish the book anonymously? If there had been a good chance of the anonymity being preserved, one could think of excellent reasons. Kant no doubt wished to keep a good reputation as a level-headed burgher, scholar, scientist, and philosopher, and not to incur the contempt of his colleagues and fellow-townsmen or to prejudice his chances of eventual election to a professorship. Even in England and the U.S.A. to-day an acknowledged addiction to even the most respectable branches of psychical research would probably be somewhat detrimental to the professional prospects of a young biologist and still more to those of a young psychologist. In Sweden, unless I am much mistaken, it would still be almost fatal to one's chances of a professorship in many subjects. It is reasonable to suspect that, in 'enlightened' academic circles in East Prussia in the middle of the eighteenth century, a reputation for having carefully read Swedenborg's writings and having paid serious attention to the evidence for his alleged feats of clairvoyance, would be enough to condemn a *privat dozent* to remain in that position for the rest of his life.

But could Kant possibly have hoped to preserve his anonymity? This seems to me almost incredible. I should have thought that the style of the book as a whole and the contents of the philosophical part of it would have betrayed the authorship to colleagues in Königsberg almost at once. Moreover, the 'idle and curious friends', who had urged Kant to make a study of Swedenborg, could hardly have felt any doubt as to the authorship of an anonymous book on the subject in which they are explicitly referred to, and they could hardly be relied upon to keep their suspicions to themselves. I can only suggest that the conventions of the time and place permitted a *privat dozent* to flirt with this disreputable subject, provided that he made an honest man of himself by maintaining the *form* of anonymity and by adopting a sufficiently bantering and condescending tone towards the alleged phenomena and the persons of whom they were narrated. If these were the conditions, Kant certainly complied with them.

Theoretical

I shall now consider Kant's philosophical discussion of the prob-

lems raised by Swedenborg's theories and claims. It seems to me that it is of some interest to do this. We have at our disposal nowadays much more varied, better attested, and more carefully investigated data than Kant had, but there has been very little discussion by first-rate philosophers of their theoretical implications. Kant was certainly one of the greatest philosophers of all time; he combined to an extraordinary degree critical acumen and constructive fertility and originality. He had also a most remarkable capacity for 'sitting on the fence' and stating the strong and the weak points of opposing concepts. This is very noticeable in his discussion of mechanism and vitalism in the *Critique of Judgment*, and it is almost equally prominent in *Träume eines Geistersehers*.

(1) *What is a Spirit?* Kant begins by raising the question: What do we understand by a 'spirit'? We often use this word, so presumably it means something, even if it expresses only a fictitious idea.

We cannot have derived the notion of a spirit from instances of it which we have ourselves observed, for we can use the word intelligibly even if we doubt or deny that there are spirits. Kant remarks here that many of our notions, though not *derived* from specific experiences in the direct way in which, e.g. the notion of 'red' or of 'man' is derived, yet arise *on the occasion of* certain experiences by a kind of unwitting inference. Such notions may be called 'surreptitious' (*erschlichene*). They may be in part mere fictions of the imagination; but they may be in part applicable to reality, for these unwitting inferences need not always be mistaken.

In order to understand Kant's attempted definition or description of a 'spirit' it will be best to begin with a brief account of his doctrine of matter.* For his account of spirits is developed in comparison and contrast with the notion of matter. I shall state what I understand to be Kant's view in my own way. He assumes that any finite body consists of a number of *simple* material substances. Each of these is, in a certain sense, *located at* some one geometrical point at each moment, though it may be located at different points at different moments. He further assumes that no two such substances can be located at *the same* geometrical point at one moment, though one of them may at a later moment be located at the point at which another was located at an earlier moment.

Now Kant equates the proposition that two simple material substances cannot be located at the same point at the same moment with the proposition that any such substance exerts upon any other a *repulsive force*, which increases rapidly as the distance between the points at which they are located is diminished beyond a certain critical amount, and which would become infinite if this were

* A theory on the same lines was worked out in considerable detail by Boscovich and published in 1763 at Venice.

reduced to zero. He points out that, although a simple material substance is indivisible and is in one sense located at a *point*, yet there is an important sense in which it occupies a *finite volume*. This is obvious enough. I have so far talked of a punctiform element of matter located at a point and surrounded by a certain field of repulsive force. But one could more properly *identify* the elementary material substance with this field, and say that it is present with more or less intensity at any point within the sphere in which the repulsive force is appreciable. The essential fact is that there is a field of repulsive force which is at each moment symmetrical in all directions about a certain singular point at which it is infinite. If one identifies the elementary substance with this symmetrical field of force, then one can say that it is *located* at any moment at the centre of this field, and one can say that it *dynamically occupies* at any moment, with systematically different degrees of intensity, every point within a small sphere around that centre.

Kant remarks that all this is consistent with the statement that a simple element of matter is unextended. To say that a thing is extended implies that it would be significant to say that it would occupy a volume even if nothing but it had existed. But the field of repulsive force associated with a single element of matter is a mere fiction unless there is at least one other element of matter. Repulsion in accordance with a certain law of variation with distance is meaningless unless we conceive that there are *at least two* elementary substances to repel each other.

It should be remarked that Kant gives the following reason for associating a finite sphere of repulsive force with each simple element of matter. A continuous macroscopic body fills a finite volume, and Kant argues that any substance which is a genuine *part* of it must therefore occupy a volume which bears a finite proportion to that which is occupied by the body as a whole. Now a point is a *limit in*, not a *part of*, a volume. Therefore a continuous macroscopic body could not consist of elementary particles which were punctiform and nothing more. I take it, therefore, that his final theory is that a continuous macroscopic body is composed of a *finite* number of spherical fields of repulsive force, each centred around a different point within the volume which the body fills, each having appreciable intensity only within quite a small radius, and each increasing rapidly towards infinite intensity as the distance from the centre decreases towards zero.

We are now in a position to consider Kant's definition of a 'spirit'. In view of the account just given of elementary material substances, it is plainly useless to define a spirit as a simple rational substance. For its simplicity will not distinguish it from an elementary material substance. And the addition of 'rational' will not

help. For, Kant says, we know nothing about the *internal* properties of elementary material substances. So far as we know, there is nothing to prevent such a substance being rational, though there is also nothing to suggest that any of them are so.

Accordingly, Kant adds two negative characteristics to distinguish a spirit from an elementary material substance. The first is that the presence of a spirit in a region of space would not involve any resistance to the entry of an elementary material substance into that region. The second is that, if we imagine each of the elementary material substances which together make up a finite continuous body to be replaced by a spiritual substance, the resulting aggregate would not be a body occupying the volume occupied by the original body. The second feature evidently follows from the first. If the volume were occupied after the change, in the way suggested, by a collection of spirits, there would be no reason why matter from outside should not freely enter it; since a spiritual substance does not oppose the entry of an elementary material substance into the region which it occupies. But, on the other hand, to say that the region was continuously occupied by a *body* after the change, would entail that matter could not enter it from outside without either shifting the present contents or encountering ever-increasing opposition if they could not be shifted.

So, in effect, Kant's proposed definition of a 'spirit' is a rational simple substance whose presence in a region of space does not offer any resistance to the simultaneous presence of an elementary material substance within that region. And an immediate consequence of this is that the presence of any number of spirits within a region, however they might be located within it, would not *eo ipso* constitute a *body* continuously filling that region.

(2) *Are there Spirits?* The next question is whether there is anything answering to this definition. Kant holds that philosophers have proved satisfactorily that anything which thinks must be simple, and that the ego of each one of us cannot be a whole composed of a plurality of interconnected substances. So each of us can be sure that his soul is a simple substance. But it does not follow that it is a *spirit* in the sense defined. For there is nothing in these arguments to show that it would not oppose the entry of any material substance into any region in which it was present. And so there is nothing to show that a suitable aggregate of human souls would not constitute a finite continuous body.

The question now arises whether 'spirits', in the sense defined, are even *possible* existents. I think that the essential points in Kant's argument might be put as follows. The question comes to this. Is there any inconsistency in supposing that there might be simple substances which, like elementary material substances, *are* or *may*

be present in space in a sense which does not involve their being extended, but which, *unlike them*, do not offer any resistance to the entry of elementary material substances into the regions which they occupy?

Now Kant distinguishes between cases where one has a positive rational insight into the possibility of something, and other cases where one has no such insight and one's only ground for saying that so-and-so is possible is that experience provides us with actual instances of so-and-so. He does not give any examples of the first alternative, but I think that it is quite easy to do so. One has rational insight into the fact that five and only five forms of regular solid are possible in Euclidean space, and that one of these possibilities is the regular icosahedron. One does not just find oneself forced to admit that the icosahedron is a possible form of regular solid because actual instances of such a solid have been observed. (It is in fact very doubtful if instances existed until they were constructed by makers of mathematical models in order to illustrate the already recognized possibility.) On the other hand, one has no rational insight into the fact that blue is one of the possible colours; one knows that it is so merely because one has seen blue objects.

Kant argues that we have no rational insight into the *possibility* of the connexion between being a simple substance and being located at a point in space and occupying a sphere around it with a field of repulsive force of a certain kind. We ascribe this punctual location and this sphere of repulsive force to the elements of matter merely because of certain facts which we observe when we perceive and operate with matter in bulk. Still less do we perceive any *necessary connexion* between the various factors in the notion of an elementary material substance. As regards the concept of a spirit, we have no rational insight into either the possibility or the impossibility of a simple substance occupying a region of space and yet *not* being located at the centre of a field of repulsive force. Thus, so far as regards rational insight into the possibility, impossibility, or necessity of the combination of certain factors in a concept, the concept of a spirit is in precisely the same position as that of a simple element of matter. We have no such insight in either case. The only advantage enjoyed by the latter over the former is that we have certain perceptual experiences which establish its possibility by providing actual instances of it. Kant's conclusion is that the possibility of 'spirits', as defined by him, can never be refuted. But there is no hope of ever getting rational insight into it, and, unlike the concept of simple material substances, its possibility can never be established through instantiation by sense-perception.

(3) *The human Soul and its Body*. As we have seen, Kant holds that, although it is certain that a human soul is a simple substance, it is

by no means certain that it is a 'spirit' in the sense defined. For, so far as we can tell, it might be a simple *material* substance endowed with rationality. We must now consider his further discussion of the embodied human soul.

Suppose that the human soul were a spirit in the sense defined. Then the question could be raised: What is its *place* in the material world? Kant answers that the place occupied by the body which a person calls *his* body would be the place occupied by his soul. Suppose that we then raise the question which would run in my terminology as follows: At what *point* within the place occupied by a person's body is his soul *located*? Then Kant suspects that the question is based on mistaken presuppositions. If I may put the matter in my own way, the mistake might be expressed as follows. In the case of a simple element of matter one can distinguish a certain geometrical point, within the region which it *dynamically occupies*, as the *point at which it is located*. One can do this because of the peculiar structure of the field of repulsive force which is characteristic of an elementary material substance. The peculiarity is that the force falls off in intensity in all directions symmetrically from a certain singular point at which it would be infinite. But a spirit has been defined as a simple substance which is *not* associated with a field of repulsive force of that kind. Yet, except on the assumption that it is so associated, the question: 'At what point is a spirit located within the region which it dynamically occupies?' is meaningless.

Now, so far as empirical facts go, Kant thinks that it would be reasonable to say that a person's soul is present equally at every place at which it would be natural to locate any of his sensations. As he puts it: 'I feel the painful pressure when my corn pains me, not in a nerve in my brain, but at the end of my toe.' In general, Kant holds that there is nothing in our experience to support the Cartesian view that the soul is located at a certain point in the region occupied by the brain. He says that he knows of nothing which would refute the Scholastic doctrine that a person's soul is present as a whole in his body as a whole and in every part of it. This would not make the soul extended. For its immediate presence throughout a whole volume would imply only a finite region of immediate action and passion, as in the case of a simple element of matter, and not a plurality of parts logically independent of each other.

Kant then proceeds to discuss the Cartesian view that the soul is located at a point within the region occupied by the brain. He asserts that the only empirical evidence for this is that, after hard thinking, one is liable to feel characteristic sensations of stress and pressure in one's head. But a similar argument, starting from other

empirical facts, would locate the soul in other parts of the body, e.g. in the heart or the diaphragm. Kant suggests that the reason why hard thinking is felt to take place in the head may be the following. It always takes place by means of symbols, and these are always visual or auditory images. Now visual and auditory *sensations* are specially connected with the head, because the eyes and ears are part of it; and it is very likely that visual and auditory imagery involves the same, or nearly the same, parts of the brain as the corresponding kinds of sensation. For my own part I should have thought that the grounds, whether they be good or bad, for the Cartesian view are certain anatomical and pathological facts, which seem to show that the sensory nerves are *transmissive* conditions, without which stimuli that affect the peripheral parts of the body fail to produce sensations in the soul.

Kant holds that it is scarcely worth while to discuss direct arguments for and against the Cartesian view of the location of the soul, because we know so little of the soul's nature that any such arguments are inevitably very weak. It is more profitable to consider certain implications of the theory.

He thinks that the following would be one of them. On the Cartesian view the soul would not be distinguished from an elementary material substance by the way in which it is in space. Each could properly be said to be located at a point, though each would also be dynamically present throughout a certain small volume surrounding that point. Now *reason* is a purely internal property, which we should not be able to perceive with our senses in elementary material substances even if they possessed it. There would therefore be no empirical objection to supposing that the simple elements of matter are all endowed with reason, and that a person's soul is just one such simple material substance among the millions of others which together make up his body. Its outstanding position would be due merely to the special situation which it occupies in a certain natural machine (the body), viz. at the place where the connexions of neural paths enable its inner faculties of thinking and choosing (which it would share with all other elementary material substances) to affect and be affected by the outer world. If this were so, would not the most reasonable conclusion be that a human soul (which would be just a simple material substance that has, by an extraordinary chance, come to occupy this special position in an appropriate natural machine) would revert after death for the rest of eternity to its normal condition of a simple element of matter?

Another consequence of the Cartesian view would be this. There would be a certain one tiny bit of a person's brain, the removal of which would suffice to de-animate him. Kant then points to the

fact that there are plenty of cases where a man has lost a fair proportion of his brain without losing his life or his power of thinking. He does not elaborate the argument; and, as it stands, I do not think that it proves anything against the Cartesian. Let us suppose, however, that it were true that for a certain part P_1 of the brain; there is an instance of a man who survived and continued to think after *that* part, or a larger part containing it, had been removed. Suppose that a similar proposition is true for parts $P_2, P_3, \dots P_n$. Lastly, suppose that $P_1, P_2, \dots P_n$ together cover the whole of a human brain. (They might to some extent overlap each other; the important point is that they should be collectively exhaustive, not that they should be mutually exclusive.) Then, it seems to me, the Cartesian theory would begin to look very shaky. But whether there is such a set of empirical facts, I do not know.

So much for Kant's reactions to the Cartesian doctrine. He confesses that, as a matter of personal conviction, he is much inclined (i) to assert the existence of spirits, in the sense defined, and (ii) to regard his soul as such a substance. He adds that, whatever reasons there may be for these convictions, they apply equally to all *living* beings. It seems to Kant that the essential peculiarity of a living organism is to be to a certain extent spontaneous and active from within, i.e. to have some power of determining its own actions and modifying itself by something analogous to *choice* in human beings.

Now it is characteristic of inorganic matter that it occupies space by a non-voluntary force which is limited by external counteraction. So it is difficult to believe that living organisms would have the features of limited self-determination and *quasi-choice* if they were composed entirely of elementary material substances. The upshot of the discussion is that Kant thinks it likely that there is something analogous to a spiritual substance wherever there is a living organism, or at any rate an *animal* organism. We cannot possibly expect to have clear ideas of the various possible grades of such little-understood entities as non-material simple substances. But at any rate we can distinguish those which are at the basis of the manifestations of purely animal life from those which include reason as part of their spontaneous activity. Only the latter would properly be called 'spirits'.

If a human soul is a spirit, then the connexion between it and the organism which it animates is a great mystery. On the one hand, it has to be conceived as forming, together with the body which it animates, a whole of a peculiar kind, viz. a certain human individual. On the other hand, if the soul be a spirit, none of the well-known kinds of combination, e.g. that of the parts of an organism or of a crystal or of an artificial machine, can be charac-

teristic of this whole. How can a bodily substance act on a spirit, which, by hypothesis, offers no resistance to its entry into the place which it occupies?

Kant says that it would seem necessary to suppose that a spirit acts on the simple elements of a body, not in respect of the external repulsive forces by which such elements interact with each other, but directly in respect of their *inner* states. It seems obvious to him that every substance must have inner states and undergo a series of inner changes which are the foundations of its external relations and their changes. Leibniz, as is well known, held that these inner states are of the nature of perceptions. Kant says that the numerous philosophers who have laughed at this theory may be invited to say (i) whether they think that there could be substances with *no* internal states but *only* variable external relations to other substances, and (ii) if not, whether they can think of any better account of the inner states, on which the external actions depend, than to say that they are analogous to perceptions. To say that *every simple element in a body* has inner states which are somewhat analogous to perceptions would not of course imply that *the body as a whole* has anything of the kind.

The upshot of Kant's discussion of this topic could perhaps be stated as follows. A change in the inner state of material element *A* produces a change in that of material element *B* only indirectly. It does so by being correlated with a change in the external field of force of *A*, which is correlated with a change in the external field of force of *B*, which is correlated with a change in the inner state of *B*. But a change in the inner state of a spiritual substance affects the inner state of the material elements of the body which it animates *directly* by a kind of telepathic *rapport*. *A fortiori* this must be the way in which one spiritual substance affects another spiritual substance.

Kant says that he does not pretend to understand how a certain spirit and a certain body come to form one human individual at conception, nor how this union comes eventually to be dissolved on the occasion of fatal accident or disease.

(4) *The Spirit-world*. We can now pass from Kant's discussion of the nature of a spiritual substance and the problems raised by embodied spirits to his discussion of the notion of a world of inter-related spirits.

The phenomena of inorganic matter can be explained satisfactorily in terms of extension, figure, motion, impenetrability, and various natural forces expressible in mathematical terms and subject to the laws of mechanics. But there are also living organisms in the world. As we have seen, Kant thinks that there must be substances of a special kind behind *vital* phenomena. These cannot be

regarded as subject to the laws of motion in general or impact in particular. On the contrary, they seem to govern themselves and to organize non-living matter by their own inner activity.

Kant admits that the only satisfactory explanations of particular phenomena in physiology, etc., are in physico-chemical terms; though he thinks that men like Stahl (who used vitalistic conceptions and terminology) have often been led to discover important facts which were overlooked by men like Boerhaave (who carefully eschewed them). We do not know how far life extends in what we take to be inorganic matter, and in any case the most that we can know of the influence of immaterial agencies in organic nature is *that* it exists, not *how* it operates or *how far* it extends. But Kant holds that, subject to these limitations, we can conclude, with reasonable though not demonstrative certainty, from vital phenomena to immaterial organizing entities obeying peculiar laws of their own. In so far as these laws are concerned with the effects produced by these entities on living matter, they may be called *organic* laws; in so far as they refer to the mutual interactions of such entities, they may be called *pneumatic* laws.

Now it would hardly be plausible to suppose that these immaterial entities are connected only *indirectly* with each other, through the interconnexions of the various bodies with which they are severally connected. For it might well be argued that at any moment only a comparatively small proportion of the immaterial substances are connected with bodies; that even these are also directly interconnected; and that their connexion with bodies is contingent and transient, whilst their direct interconnexions are intrinsic and permanent. So it is plausible to suppose that all these immaterial substances are interconnected directly to form a single system, which we could call the immaterial or spiritual world.

This world would include (i) all *finite intelligences*, some of which would be united to living organisms to constitute persons, and others not; (ii) the *sensitive souls* of all animals; and (iii) all *organizing entities* in nature, even when the vital phenomena which evince them do not include spontaneous movements. All these three kinds of immaterial substance would form a system which does not depend on the peculiar conditions which govern the relations of bodies. Here, e.g., spatial and temporal separations, which made the great clefts in the material world, would be non-existent, though there might be other conditions of separation. A human soul during its earthly life would be a member of two worlds. As embodied, it would be especially associated with a certain region of space and stretch of time, and it would perceive clearly and affect voluntarily only certain limited portions of the material world. But, as a member of the spiritual world, it would not be

located in physical space-time, and there is no reason to think that spatio-temporal categories of any kind would be applicable to it. In that capacity it would receive and impart influences of an immaterial kind. At death only the direct relations with other immaterial substances would remain, and the soul would become clearly aware of them.

We can now conceive the following possibilities. (i) That, even in this life, each human soul is in close connexion with the rest of the immaterial world, acts on it, and receives influences from it. But under normal conditions it is unaware of these actions and passions. (ii) That disembodied spirits have no conscious sense-perception of the material world. For such a spirit is not connected with any particular organic body to form a person, and thus has no location in the material world and no bodily organs through which to perceive and act upon it. (iii) That disembodied spirits can influence and be influenced by souls which are animating human bodies, since these are of the same nature as they and stand in direct mutual relations with them. But disembodied spirits could not receive and assimilate those ideas in embodied souls which depend upon the body and its relations to the rest of the material world. Conversely, embodied souls could not receive and assimilate the intuitive cognitions which disembodied spirits have of themselves and of other immaterial entities. At best each party could receive such ideas from the other only in a *symbolic* form.

Kant then considers certain psychological and ethical facts about men, which he thinks fit in very well with the hypothesis that our souls live in these two worlds. I am bound to say that I do not find his argument at all clear or convincing at this point.

One set of facts which he adduces is this. Each of us strongly desires certain kinds of unity and co-operation with other men, and feels strong pro-emotions towards such relationships, not as a mere means to his own preservation or happiness, but for their own sake. Such desires and emotions often conflict with others which are purely self-confined, such as desire for one's own happiness, fear of death, etc. Each man, e.g., quite directly desires and values the recognition and approval of himself and his actions by others. He likes to compare what he thinks good and true with what others think good and true; he is disturbed if there is a difference of opinion; and he tries to secure agreement. Kant says that all this is 'perhaps a feeling of the dependence of one's own judgments upon the universal human understanding, and a means of creating a kind of unified reason for the whole thinking being'. I take 'the universal human understanding' to mean the supposed system of directly interconnected human spirits, embodied and disembodied; and I take 'creating a kind of unified reason for the whole thinking

being' to mean increasing the unity of that system in such a way and to such an extent that it constitutes a kind of rational super-individual mind. If that is Kant's meaning, it seems to me to be an hypothesis which is barely intelligible in itself and derives little support from the empirical facts adduced in its favour.

Kant then passes from these to another set of facts which he considers to be 'more illuminating and easier to see' for the present purpose. These facts seem to me to be a strange mixture, and the interpretation of them which Kant proposes is far from clear to me.

I think that it will be best to translate the main passages. They run as follows. 'If we consider outer things in reference to our needs, we cannot do so without at the same time feeling ourselves to be bound and limited by a certain feeling which makes us notice that a foreign will, as it were, is active in us and that a necessary condition for our own will and pleasure (*Belieben*) is the concordance (*Beistimmung*) of others. A secret power compels us to direct our intentions to the welfare of others or in accordance with the choice of others, although this often goes against the grain and strongly conflicts with selfish inclinations. . . . From this arise moral motives . . . the rigid law of obligation and the weaker one of benevolence, both of which extort many sacrifices from us. In consequence of this we perceive ourselves to be dependent in our innermost motives on the *rule of the universal will*. From this there arises in the world of all thinking beings a *moral unity* and a systematic constitution according to purely spiritual laws. If we like to give the name *moral feeling* to this felt compulsion on one's own will to adjust itself to the universal will, we are speaking of it merely as a phenomenon which does in fact occur in us, without expressing any view as to its causes.'* (Kant then compares this to Newton's use of the word 'gravitation' to describe the mathematical formula to which the mutual attraction of matter does in fact conform, and not to suggest or imply any particular theory as to the causes of this phenomenon. But, he says, Newton had no doubt that the phenomenon of gravitation does evince a fundamental and universal activity of matter.) The quotation now continues as follows. 'Would it not be possible to think of the phenomena of moral motivation in thinking beings, in respect of their mutual relationships, as a consequence of a genuine active force by which spiritual beings influence each other? In that case moral feeling would be the felt dependence of one's private will on the universal will. It would be a consequence of the natural and universal interaction, by which the immaterial world attains its moral unity as it develops into a system of spiritual completeness in accordance with the laws of its own interconnexions.'

* The italics throughout are Kant's.

I would make the following comments on the passage which I have quoted. (i) As regards the first sentence, I will say only that it is highly obscure in the original and that my translation has been made after consulting an English colleague who is an expert in the German tongue. When this sentence is taken in its context the interpretation which I have put upon it seems to be the most plausible which the words and phrases will allow.

(ii) The phrase in the second sentence about directing our intentions 'in accordance with the choice of others' is highly ambiguous. We do this, e.g., when we obey an order purely through fear, when we fall in with another person's choice because we like him and desire to gratify his wishes, and when we follow the advice of a person, such as a doctor or a lawyer, whom we believe to be an expert. The second alternative might, perhaps, with a little stretching, be said to come under the 'weaker law of benevolence'; but none of them would seem to come under 'the rigid law of obligation'.

(iii) I think it may well be true that many persons are inclined to interpret their sense of obligation to do something which goes against the grain as involving a kind of conflict between their own will and a foreign will. And I think they would feel that the only proper solution is, not a recalcitrant external obedience to that foreign will, but a transformation of their own will into conformity with it. But, in so far as a person puts this interpretation on his feelings of moral obligation, I should have thought that he regards the foreign will as that of some *individual*—in the last resort God—who has a *moral right* to such inward conformity of our desires to his. Now Kant cannot here mean by the 'universal will' the will of God. It seems plain that he must regard it as a kind of collective will, belonging to the system of all the inter-related finite spirits, considered as a kind of super-individual mind. Now I do not believe that this is an intelligible hypothesis; and, even if it be so, I see no reason to think that a person naturally interprets his experiences of moral obligation in terms of a conflict and a conformity between his private volitions and the volitions of a collective mind composed of all the spirits that there are.

(iv) What are we to make of the analogy with the Newtonian theory of universal gravitation? What is supposed to be analogous to the phenomenal facts which Newton explained, and what is supposed to be analogous to the underlying causes by which he explained them?

(a) I think that the answer to the second part of the second question is fairly obvious. Newton's explanation was in terms of a system of material particles attracting each other in accordance with a certain law, and subject in all their movements to the three

laws of motion. Kant's explanation is to be in terms of a system of spirits in some kind of direct *rapport* with each other, so that changes in the inner state of each telepathically produces correlated changes in the inner states of all the rest in accordance with 'pneumatic' laws.

(b) What Newton explained by his theory of gravitation was a number of striking terrestrial and celestial rhythms, e.g. the tides, the orbital motions of the planets in accordance with Kepler's laws, and so on. He further explained what might be called 'second-order' rhythms, e.g. the precession of the equinoxes. He thus showed that a set of particles, each of which moves under the joint influence of its own originally impressed momentum and the gravitational attraction of all the rest, will (if the originally impressed momenta fall within certain limits) settle down into a stable system, characterized by certain large-scale rhythmic regularities and by minor variations on these themes which are themselves regular and rhythmic.

Now compare the originally impressed momentum of a particle to the 'private will' of an individual spirit; and compare the gravitational field, due to the attraction of all the other particles, to the telepathic influence of the inner states of all other spirits on the inner state of this spirit. Then I take Kant's suggestion to be that the latter is felt by the individual in the peculiar form of a feeling of 'moral obligation'. It is, one might perhaps say, almost as if each were subject to a kind of hypnotic suggestion, exercised telepathically and unwittingly by all the others, and received by the individual without conscious awareness of its source. Kant suggests, if I understand him aright, that a set of spirits, each of which acts under the joint influence of its private will and the telepathically exercised hypnotic influence of all the rest, will settle down into a stable system, characterized by some kind of moral and spiritual pattern analogous to the rhythmic spatio-temporal pattern of the solar system.

(5) *Eschatological Consequences*. Kant thinks that such a theory as has been sketched above would help to remove a difficulty which is very commonly felt about the lack of correlation in this life between well-doing and well-being and between ill-doing and ill-being.

There is no special connexion between the rightness or wrongness of a volition and the consequences which it has in the material world. A precisely similar series of bodily movements, and therefore precisely similar results in the material world, might be initiated carelessly or deliberately, and, if deliberately, either from a good motive or an evil one. But these different causes, with the same effects in the material world, might have very different

effects in the spiritual world. For the moral character of an act concerns the *inner* state which lies behind it in the agent; and so it can have its full effect, in respect of the features which make it morally good or evil, only by its immediate telepathic influence on the inner states of other spirits. Their reaction, influencing telepathically the original agent, might make a great difference to his well-being or ill-being as a denizen of the spiritual world. In particular, the moral goodness or badness of an embodied spirit's acts in this world might determine his relationships of closer or less intimate *rapport* with other spirits, embodied and disembodied. Evil acts may lay one open to the telepathic influence of evil spirits, and put one out of telepathic *rapport* with good ones, and *vice versa*.

When the soul is separated at death from the body which it has been animating, its life in the spirit-world will be merely a continuance of those relations with other spirits in which it has already been standing. The goodness or badness of its acts done in the flesh will already have produced their consequences in the spiritual world, of which it has always been a member; and those consequences will now be manifest to it in the nature of the spiritual 'environment' in which it will find itself. It will wake up on the spiritual bed which it has made for itself, and on which it has all the while been unwittingly lying during its dream-life in the world of matter. This, Kant rightly thinks, is a great improvement on the popular religious theory which regards future rewards and punishments as causally contingent to virtue and vice, and as accruing only in consequence of God's special volitions.

(6) *Our Cognitions as Members of the Two Worlds*. Kant deals next with the following *prima facie* objection. If there is this community of spirits, and if each of us is at all times a member of it, is it not very odd that the fact is not perfectly well known to us all? Kant's solution is as follows. Each human soul has two quite different ideas of itself. (i) It knows itself as a *spirit* by means of a kind of *non-sensuous intuition*, through which it is aware of itself in relation to other spirits. (ii) It knows itself as an *embodied self* through an *image* which originates from impressions arising from the stimulation of the sensory organs, internal and external, of the body. By this means only material things and its relations to them can be presented to it. It is indeed one *subject*, which belongs both to the spiritual and the material world. But it is not one and the same *person* in its two capacities. Its cognitions in one capacity do not link up with its cognitions in the other. What one cognizes as a spirit is not remembered by one as an embodied self, and one's cognitions of one's own states as an embodied self do not enter into one's cognitions of one's state as a spirit. However clear and intuitive one's awareness

of the spirit world may be to one as a member of it, this does not enable one as an embodied self to perceive it. In this life, under normal conditions, one can have no more than an abstract discursive conception of the spirit-world, reached by reasoning such as Kant has offered; one cannot have an intuitive awareness or an empirically derived concept of it.

Kant compares the situation with that of the same man awake and dreamlessly asleep. No one, he thinks, would have any difficulty in admitting that, when a man is asleep, he may have clear conscious cognitions which he cannot recall when awake. He adduces the acts of sleep-walkers, which are often more intelligent than those of the same person when awake, in support of this opinion. Indeed, Kant is inclined to think that mental activity in dreamless sleep is likely to be clearer and more efficient than it can ever be in waking life, because disturbance from the outer and inner bodily senses is at a minimum. But, for this very reason, cognitions had by the soul in dreamless sleep cannot be recalled in waking life. In order for such recall to be possible there would have to be some sensory link between the cognition in dreamless sleep and some sensation in present waking life. This would have to take the form of some sensation in dreamless sleep, which was associated at the time with the cognition and might be revived by a sufficiently similar waking sensation. But in dreamless sleep sensation, both from within and without the body, is in abeyance. Kant remarks that dreams, which he defines for the present purpose as experiences had by a person when sleeping and remembered by him when awake, are here irrelevant. The dreamer may he said to be not fully asleep. He is wrapping up the cognitions which he has as a spirit in the impressions of his outer or inner bodily senses.

In spite of this we cannot wholly rule out the possibility that our experiences as spirits may occasionally insinuate themselves into our normal waking consciousness. A spiritual cognition may do this through evoking by association sensory ideas which are related to it, viz. images or even hallucinatory *quasi*-sense-perceptions which are *symbolical* of the spiritually cognized fact or object. After all, both modes of cognition, the spiritual and the sensory, belong to the same thinking substance. We may compare this possibility with the admitted fact that the higher rational concepts generally need to be clothed in sensory symbols if they are to be intelligible to us. Kant refers, in this connexion, to the representation of duration by a line, that of eternity by endless time, and the representation of divine moral attributes in terms of human emotions, such as pity, anger, etc.

But, even if this seeping of spiritual cognitions in symbolical

form into everyday consciousness be possible, it might be expected to be rare. It would be likely to happen only in persons whose brains are specially excitable, and thus more likely than those of most men to generate imaginative or *quasi*-sensory phantasies symbolical of spiritually cognized facts or objects. Such persons are apt to be presented with numerous objects which they take to be things of a *spiritual* nature actually present to their *senses*. Really they are subject to an illusion of the imagination or an hallucination of the senses, but its ultimate origin is a genuine influence from the world of spirits upon them as members of that world.

Such symbolical but veridical phantasies would almost certainly be blended with ideas derived from education, tradition, etc., and in some cases with products of mere mental or bodily derangement. It must always be very hard to disentangle the spiritual fact or object, symbolically presented, from the wrapping of phantasy and hallucination. Again, this state of 'permeability', in which the brain and nervous system are activated in an abnormal way by the purely spiritual cognitions of the soul, would involve something which might fairly be called nervous instability. It would therefore be quite likely that a genuine 'spirit-seer' would be subject to mere delusions and hallucinations, with no spiritual significance, along with his veridical symbolic experiences. In this connexion Kant compares the gift of seership with Juno's gift to Tiresias. In order to confer on him the spiritual insight which enabled him to foresee the future she deprived him of his bodily eyesight.

(7) *Connexion with Swedenborg's Doctrines*. Now Swedenborg claimed to occupy a unique position both among men and among disembodied spirits, in that he and he alone lived consciously and almost continuously in both worlds. He was thus in a position to investigate the spirit world for himself, to cross-question its inhabitants and detect the errors and illusions to which they are subject, and to describe its nature and structure in ordinary human language on the basis of the information thus obtained. Now, as Kant points out, the information which Swedenborg claimed to have got 'straight from the horse's mouth' (if it be permissible to use such an expression in this context) agrees remarkably with the theory which Kant had reached by the reasoning outlined above. Kant does not give Swedenborg much credit for this; he says that it is 'as if a poet when he raved happened to prophesy truly'. It might strike an impartial observer that the agreement may not be wholly disconnected with the fact that Kant had carefully read and epitomized Swedenborg's doctrine at the time when he was pursuing his metaphysical speculations on this topic.

(8) *The Psycho-physiological Conditions of Waking Sensory Hallucinations*. Kant devotes Section III of Part I of the book to an elaborate discussion of the psycho-physiological conditions of waking sensory hallucinations. The essential points may be stated as follows.

The case to be considered is that of a man who is perceiving by ordinary sight, touch, hearing, etc., his own body and the various external objects which other waking men in his neighbourhood perceive, but who *also and simultaneously* seems to himself to be perceiving *other* objects, imperceptible to his neighbours, located at various places outside his body. This case must be distinguished from ordinary dreaming. There the subject does not perceive his own body by the external senses of sight and touch, and he does not perceive any of the objects which waking men in his neighbourhood perceive. It must also be distinguished from the case of a waking man who experiences very vivid images or even *quasi-sensations* but does not locate their objects in external physical space or regard them as existing independently of himself.

The 'ghost-seer' is an instance of the case under discussion. But so too is a person in delirium or madness. Suppose that the ghost-seer's experience is delusive, in the sense that at the place where the ghost is ostensibly seen to be there is no physical object emitting or reflecting light to the seer's eyes. Then, even if there should be a spiritual cause at the back of the ghost-seer's experience, and if his experience should be veridical in the sense of symbolizing that spiritual cause, essentially the same problem is raised by ostensible ghost-seeing and the waking hallucinations of delirium or madness. It may be stated as follows. How can a person project imaginative or *quasi-sensory* contents, which are not evoked by physical stimuli impinging on his sense-organs from certain places in external physical space, into determinate external positions, so that they appear to him to stand in determinate spatial relations to his own body and to other objects of normal sense-perception?

Kant puts forward tentatively a physiological answer to this question in terms of the old theory of 'animal spirits', i.e. the theory that the interstices in the brain and the supposed pores in the nerves are filled with a very subtle fluid whose motions are correlated with our sensations and volitions. I suppose that his answer could probably be recast in terms of present-day views of neural impulses as transmissions of electrical or chemical states rather than translatory motions of a fluid.

So far as I can understand it, the suggestion may be put as follows. The motions of the animal spirits in one's brain and nerves, which are involved in an *actual sensation* of sight or hearing, follow lines within the body which, if produced, converge to a point or a

limited region *outside* the body. The motions of the animal spirits which are involved in having a visual or auditory *image* normally follow lines which converge to a point or a limited region *within* the body. But in madness or delirium the normal equilibrium of the brain and nervous system is upset in such a way that the motions of the animal spirits which are correlated with an *image* follow lines which converge to a point or a limited region *outside* the body. Thus one seems to *see* objects, located in external space, corresponding to images had under such conditions.

Now it often happens that only one kind of sensible experience, viz. the visual, is disturbed, whilst the others, and in particular the tactual and the muscular, are not. Thus one seems to *see* objects located in external space, which yet offer no resistance and are intangible. Now this is what is commonly told of ghosts. It also corresponds to the philosophical notion of a spirit, viz. a substance which can occupy a region of space without offering any resistance to the entry of matter into the place which it occupies.

Kant remarks that it is likely that traditional stories of ghosts provide some of the materials for the hallucinations of delirium or madness. If a man were in the same psycho-physiological condition, but lacked this background of tradition, his hallucinations might take a very different form.

(9) *The Conclusion of the Whole Matter.* Kant was much too intelligent a man to think that a psycho-physiological theory of the *modus operandi* of waking sensory hallucination *disproves* the existence of spirits, or that it disposes of the claim that some such experiences are initiated by the telepathic action of a spirit on the soul of the experient and that they express in a symbolic form the spiritual event which initiated them. Though Kant does not explicitly say so, it is obvious that the test in each case is, not the mere fact of ostensibly seeing an apparently independent figure localized in physical space outside the body, but the question whether the particular details of the experience itself and the particular circumstances under which it happened strongly suggest that it was initiated supernormally.

But, since the waking sensory hallucinations of delirium and madness involve the same psycho-physiological mechanism, and since most persons who claim to be mediums are obviously to some extent unbalanced physically and mentally, it is tempting to treat them all alike as merely pathological phenomena requiring no supernormal explanation. Kant says that anyone who takes this line will enjoy three advantages. He will be able to make up his mind easily and quickly without needing to bother about detailed investigation of particular cases. He will be explaining the facts on the basis of materials provided by common experience instead of

having recourse to the doubtful speculations of reason. And, above all, he will avoid exposing himself to ridicule. For these reasons Kant will in no way blame anyone who regards every professed ghost-seer, not as a half-citizen of another world, but as a candidate for a mental hospital. But he carefully refrains from saying that this is his own view. For him the general plausibility of the theory of a world of spirits and of our double citizenship in this world and in that is enough to keep him 'serious and undecided' in view of such stories.

Yet, very characteristically, he half takes away with one hand what he has so grudgingly given with the other. Were it not for our hope of a *future life* (which, he says, he cannot and would not eliminate) no one would attach any weight to the abstract possibilities which he has developed in the metaphysical part of the book. It would be much more reasonable, apart from that hope, to ascribe all these ostensibly supernormal phenomena to natural causes than to postulate agents and modes of action so utterly unlike anything to which our senses bear witness. The fact is that we are, and are doomed to remain, *equally* ignorant concerning the *three* problems of (i) the animation of a human body by a human soul at conception, (ii) the connexion of a soul with its body during life, and (iii) its separation at death and its subsequent existence. Were it not for our hopes and fears about the future, we should be as content to refrain from speculation concerning the third problem as most men have always been with regard to the other two.

Kant's final conclusion is completely agnostic. Beyond the bare abstract possibilities outlined in the metaphysical sections we can make no further progress either by rational speculation or by experiment and observation. Genuine scientific hypotheses are concerned with the *details* of agents and forces which are already known to be *possible* because they are already shown by sense-experience to be *actual*. But, in speculating about non-material thinking beings, standing to each other in non-spatio-temporal relations and interacting telepathically in accordance with pneumatic laws, we are postulating agents and modes of action which we cannot know to be even possible. We have neither the guarantee of rational insight (as we sometimes have in pure mathematics) nor that of instantiation by sense-perception (as we have in natural science).

Admittedly, in the case of ghost-stories we have certain alleged experiences of a *quasi*-sensory nature. But, Kant says, the lack of agreement and uniformity which is characteristic of such experiences makes them useless as a foundation for any proposed laws concerning which reason might pass judgment. They show only

certain anomalies and irregularities in the functioning of the senses, and, as such, it is reasonable to discount them.

Kant seems never to have contemplated the possibility of an experimental investigation of ostensibly supernormal cognitive and active powers. He does not even envisage the careful investigation and comparative study of the sporadic cases, such as was first attempted in *Phantasm of the Living*, nor a synoptic survey of the whole field of normal, abnormal, and ostensibly supernormal mental phenomena, such as Myers made in his *Human Personality*. The fact that so great a man, speculating seriously on this topic, did not consider these possibilities, and that they have now been in so large a measure realized, should increase our gratitude and admiration for the pioneers of psychical research in England, America, and the continent of Europe. It is, perhaps, permissible to conclude with the phantasy that news of these later developments has seeped through in a symbolic form to the disembodied spirit of the sage of Königsberg, and that he has received it with interest and approval.

POSTSCRIPT ON KANT AND SWEDENBORG

The publication in the S.P.R. *Proceedings* (Part 178, Vol. XLIX, July 1950) of the above paper led to some interesting correspondence, and during a long stay in Sweden in the late summer and early autumn of 1951 I had some opportunities of pursuing certain lines of inquiry. I am adding this Postscript partly in order to embody the new information acquired and partly in order to express my thanks to those who have so kindly helped to contribute it.

Two main topics will be treated here. The first is the question of Kant's attitude towards Swedenborg and his doctrines at a considerably later period than the publication of *Träume eines Geistersehers* in 1766. The second is the question whether there now exist in Sweden any official documents recording contemporary evidence bearing on Swedenborg's alleged clairvoyant vision in Göteborg of the fire on Södermalm in Stockholm in July 1759.

Kant's later Attitude towards Swedenborg

Professor Alf Nyman, of the University of Lund, has kindly sent me an article by him in Swedish bearing on this question, entitled: *Kant:—en Mystiker?* I have also received from Dr. Rudolf Tischner, of Munich, a Corresponding Member of the S.P.R., a letter deal-

ing with the same topic. The main facts which emerge are the following.

In 1821 Poelitz published at Erfurt a book entitled: *Kants Vorlesungen über Metaphysik*. A section of these lectures deals with the subject of Rational Psychology. This part was republished at Leipzig in 1889 by Du Prel under the title: *Immanuel Kants Vorlesungen über Psychologie*. Authorities differ slightly as to the date at which these lectures were composed. Benno Erdmann dates them 1773-4, and Heinze 1775. But the earliest of these dates is seven years after the publication of *Träume eines Geistersehers* and three years after the famous *Inaugural Dissertation* which initiated the doctrine of Critical or Transcendental Idealism which is Kant's most characteristic contribution to philosophy. There is, moreover, evidence that these lectures were still being given as late as 1788-9, i.e. seven or eight years after the publication of the first edition of the *Critique of Pure Reason*.

Now, in the part of these lectures which deals with Rational Psychology Kant refers explicitly to Swedenborg in complimentary terms. He gives, with apparent approval, a synopsis of that doctrine of the soul's simultaneous lives in the sensible and the supersensible worlds which Swedenborg held and which Kant had sketched as a metaphysical speculation in the theoretical part of *Träume eines Geistersehers*. I have not myself seen these lectures of Kant's, but I am sure that I shall be doing him no injustice in translating into English Professor Nyman's Swedish version of the German original of the relevant passage. It runs as follows:

Swedenborg's thought in this matter is very elevated. He says: 'The spirit world constitutes a special real universe.' This is *mundus intelligibilis*, which must be distinguished from the *mundus sensibilis*. He says: 'All spiritual natures are connected with each other, but this communion and these inter-relations are not bound up with the body as a condition. There one spirit is not near to or distant from another, but it is a question of a spiritual relationship. Our souls, as spirits, stand in this connexion and communion with each other already in this world. But we do not see each other to be in this communion, because we still possess a *sensible* form of intuition. But, even if we do not see it, we do in fact stand in it. If now the hindrances to spiritual intuition are temporarily removed, we see each other in that spiritual communion, and that is the other world. This consists, not of other things, but of the same things, which, however, we intuit in a different way. If a man has been righteous in this world, and if his will is well-intentioned and assiduous in carrying out the rules of virtue, that man is already in this world in communion with all just and well-intentioned souls, even if they live in India or Arabia. Only he does not see himself as being in this communion until he is freed from his sensible intuition. . . . So the virtuous person does not go to Heaven,

but is already in it here and now. But only after death will he see himself to be in this communion. In the same way the wicked cannot see themselves to be in Hell, although really they are already there.'

It is plain, then, that some years after his contemptuous references to Swedenborg in *Träume eines Geistersehers* Kant was, in lectures to students, mentioning Swedenborg with respect and quoting certain of his doctrines at some length. If we take the contemptuous tone of *Träume eines Geistersehers* to be a sincere expression of Kant's feelings at the time, we must, as Dr. Tischner remarks in his letter to me, hold that his attitude towards Swedenborg underwent two changes, first from more to less favourable and then in the opposite direction.

It should be noted that the less favourable attitude is expressed in a published though anonymous work, whilst the more favourable attitude is expressed first in a private letter and then later in lectures not intended for publication. The book entitled *Kants Vorlesungen über Metaphysik* was compiled by Poelitz from sets of notes taken by various students at Kant's lectures. These notes had been collated and then fair-copied. Various fair-copies exist; some conflict with each other in certain points, but several are nearly identical in content. The lectures were intended for beginners. The syllabus must have been largely traditional, and the lectures would almost certainly be closely associated with certain already rather old-fashioned text-books which students were expected to read. This, it seems to me, is sufficiently shown by the fact that Kant was still lecturing on Rational Psychology, a subject which he had taken great pains in the *Critique of Pure Reason* to explode as completely bogus. (By 'Rational Psychology' was meant a system of allegedly *a priori* knowledge about spirits in general and the human soul in particular.)

It is plain, then, that even if we had Kant's own manuscript, we could not safely assume that it represented his own mature convictions on the topics discussed. But in actual fact we have only notes taken by some of his students. No one who has examined undergraduates who have attended his lectures, and has seen the very surprising disguises in which statements made by him or remarks thrown out by him can appear, would care to be judged on such evidence. That Kant himself was of this opinion is shown by a letter of his to Marcus Herz, quoted by Professor Nyman, in which he explicitly warns his correspondent against relying upon notes taken at his lectures as a source of information about his views.

The upshot of the matter is this. I do not think that it would be safe to say more than the following. Kant, in lectures delivered to

elementary students some years after the publication of *Träume eines Geistersehers*, spoke respectfully of Swedenborg. In the part of those lectures which deal with a subject which he claimed to have completely overthrown in his already published works he singled out a certain particular feature in Swedenborg's doctrine of spirits for favourable mention. Even here he explicitly rejected certain other doctrines which are no less characteristic of Swedenborg, e.g. the possibility of communicating in this life with the spirits of the dead, and he describes the doctrine which he singles out for favourable mention as a matter of opinion which can never be demonstrated. The inference appears to be this: Kant, in his more 'unbuttoned' moments, took a not unfavourable view of certain features in Swedenborg's doctrines which are compatible with (though they go beyond) his own account of the 'empirical' and the 'noumenal' self in the *Critique of Pure Reason* and the *Critique of Practical Reason*. His private opinion may have been that something like this part of Swedenborg's doctrine may well be true, or at any rate that it may be the nearest approximation to the truth which is conceivable to us here and now and expressible in our language. But in his published professional contributions to philosophy he was not prepared to commit himself, even by implication, to anything beyond what he thought to be capable in principle of being proved.

In all this there would be no inconsistency. But, on any hypothesis, I fail to understand why he expressed himself so contemptuously about Swedenborg in *Träume eines Geistersehers*. If his scornful words expressed his real feelings at the time, what had led to this rapid worsening in his opinion of Swedenborg? And what led to the second reversal which must have taken place by the time of the lectures on Rational Psychology? If, on the other hand, the scorn expressed in *Träume eines Geistersehers* was merely assumed, what motive was there for an almost morbidly conscientious man like Kant to go out of his way publicly to simulate a contempt, which he did not feel, for an aged and amiable foreigner, of the highest intellectual distinction, who at worst suffered from a bee or two in his bonnet?

Question of the Present Existence in Sweden of Contemporary Records bearing on the Story of the Stockholm Fire

I am deeply indebted to my friend Professor Karl Olivecrona, of the University of Lund, for the great trouble which he has taken in writing to the Landsarkiv in Göteborg and the Riksarkiv in Stockholm, asking them to search their records for matter which might bear upon Swedenborg's alleged clairvoyant vision in the

former city of a simultaneous fire on Södermalm in the latter. I am also grateful to Arkivist Josef Edström in Göteborg, and Arkivist Holger Wichman in Stockholm, for their researches in attempting to answer Professor Olivecrona's inquiries, and to Bibliotekarien Olsson of the University Library at Lund, for his help in suggesting literature which might profitably be consulted.

The one positive fact which emerges is that Hartenstein was plainly correct in dating the fire to 19th July 1759. I have been supplied with an extract from the newspaper *Stockholms Post Tidningar* for 23rd July 1759, which leaves no doubt on this point. I translate it as follows:

Last Thursday, the 19th of the present month, a severe fire broke out at 3 p.m. on Södermalm by Besvärbacken. In consequence of the high wind prevailing at the time, which gradually increased during the fire, the flames spread quickly and far. As a result 20 quarters between Södermalms Torg, Hornsgatan, Bengt Bryggaresgränd, and Mälaren, and also 2 quarters on the eastern side of Hornsgatan together with Maria Kyrkan, were completely burnt out. Beside this 6 other quarters, together with the weighing-machine for iron, were to some extent damaged by the fire. The fire lasted until 4 a.m. on Friday morning, by which time more than 250 houses were burnt out. The large number of wooden houses among these, together with a previous prolonged drought and lack of water where it was most needed, coupled with the general consternation, were the chief circumstances which caused the fire to spread so widely.

Professor Olivecrona tells me that he has found in the Göteborg newspaper *Hwad Nytt i Staden* for 30th July 1759 a quite circumstantial account of the same fire.

When I was in Stockholm in the autumn of 1951 I took the opportunity to inspect the site of the fire as described in *Stockholms Post Tidningar*. It is now a somewhat shabby district, with a number of extremely steep narrow streets and alleys, containing old and rather ramshackle wooden houses, most of which would deserve the depreciatory Swedish name of *kåkar*, and some the even less flattering name of *kyffen*. It must have been a semi-rural district in 1759, and it no doubt then contained good houses with gardens belonging to substantial burghers of Stockholm. This fact is attested by the gravestones in the churchyard of Maria Kyrkan and the memorial tablets in the church itself. Among the latter I noticed an elaborate mural tablet to a *Robsahm*, presumably the merchant who was for many years a great friend of Swedenborg and has recorded many anecdotes about him. I could not find, either on the spot or in the street-map of present-day Stockholm, any street called *Besvärbacken*. But its name ('Hill of Difficulty') would be eminently suitable to many of the streets there, and one

which I laboured up has, and deserves, the quaint name of *Pustegränd* ('Panting Alley').

If we compare the record of the fire in *Stockholms Post Tidningar* with Kant's account of Swedenborg's vision of it, we notice the following discrepancy in dating. The newspaper says that the fire took place on July 19th, and that this was a *Thursday*. It adds that it lasted until early on *Friday* morning. There can be no doubt that this is correct. But Kant alleges that Swedenborg arrived in Göteborg on a *Saturday* and had his vision that evening, and states that the royal courier from Stockholm arrived on the following Tuesday and reported that the fire had been put out at 8 p.m. on the *previous Saturday*. Now Kant's mistaken information about the date of the fire and the time at which it ended must have come from his English friend who is alleged to have carefully investigated the evidence for the story both in Stockholm and in Göteborg. The discrepancies between what this Englishman must have reported to Kant and the facts, which must have been perfectly easy for him to check at the time, seriously discredit his competence or his diligence as an investigator and therefore the value of his testimony.

The inquiries which Professor Olivecrona set on foot were directed primarily to ascertaining whether there is any contemporary evidence now surviving that Swedenborg arrived in Göteborg from England on 19th July 1759, i.e. on the actual date of the fire. The results have been entirely inconclusive, as appears in the detailed statements which follow:

The Archivist of the Landsarkiv in Göteborg reports that he has gone through the so-called *tolagsjournal* for the town of Göteborg for the year 1759, which is the only available official source of information about ships arriving at the port from day to day. No ship is recorded as having arrived from England on July 19th. This, however, is not inconsistent with the possibility that one did arrive on that date with Swedenborg on board. For the Archivist points out that the *tolagsjournaler* indicate only the *last* port at which a ship touched before reaching Göteborg. The Archivist reports that he has also gone through the drafts of documents sent out from the office of the lord-lieutenant (*landshövding*) between 19th July and 3rd August 1759, and has found nothing concerning Swedenborg.

Professor Olivecrona tells me that he has looked through the issues of the two Göteborg newspapers, *Göteborgska Magasinet* and *Hwad Nytt i Staden*, for the period from June to October 1759, and has found no mention in either of Swedenborg. He noted that *Hwad Nytt i Staden* gave every week a list of ships which had arrived at Göteborg. Many of these are stated to have come from England, so that it is plain that Swedenborg may have landed at Göteborg from England on July 19th, although no ship is entered in the

tolagsjournal as having arrived from England on that date. *Hwad Nytt i Staden* occasionally mentions that such-and-such travellers have arrived and are staying at the inn *Tre Remmare*. Swedenborg's name is not among these. But no significance can be attached to this fact. He almost certainly had friends in Göteborg, and he may well have stayed with them. Even if he did not, he may have stayed at some other inn which the proprietors or the editor of *Hwad Nytt i Staden* had no motive for advertising.

From the Riksarkiv in Stockholm it is stated that search has failed to discover any report, either to the king or to the chancery (*kanslikollegium*) or to the minister of justice (*justitiekanslern*), concerning Swedenborg and the fire on Södermalm of 19th July 1759. There is thus no evidence to be found there that the *landshövding* of Göteborg ever submitted any report of his alleged conversation with Swedenborg about the latter's clairvoyant vision of the fire.

There is one other possible source of information which I have consulted, and the results here, too, have been wholly inconclusive. The Information Officer of the Public Relations Bureau of the General Convention of the New Jerusalem in the U.S.A. kindly wrote to me in May 1951 calling my attention to the immense repository of documents relating to Swedenborg, collected and published by R. L. Tafel for the Swedenborg Society in 1877. This book was not in the Cambridge University Library, and I have to thank the University Librarian and the Swedenborg Society in London for so kindly co-operating to make it available for me to consult in Cambridge.

R. L. Tafel was a Professor at Washington University, St. Louis, Missouri. In 1868 he was delegated by the New Church in the U.S.A. to visit Sweden in order to make photo-lithographic reproductions of all the discoverable unpublished MSS. of Swedenborg. While so engaged he formed a plan to collect also such documents about Swedenborg as might exist still unpublished in Sweden. This plan was approved by the New Church, and the result of these latter labours appeared under the title: *Documents Concerning the Life and Character of Emmanuel Swedenborg*. This was published in London for the Swedenborg Society. Vol. I was issued in 1875. Vol. II, which is divided into two Parts and is in effect two large volumes, came out in 1877.

The testimony relating to Swedenborg's alleged clairvoyant vision of the Stockholm fire is presented in Vol. II, Part I, pp. 628-32. It begins with Kant's story. The remaining testimony may be subdivided into (i) other accounts of the alleged facts which do not claim to be based on Swedenborg's own statements, and (ii) reports by friends of Swedenborg of statements which they allege that he made to them about his clairvoyant vision of the fire.

Under the first heading are accounts of the incident by the German occultist Jung-Stilling (*Theorie der Geisterkunde*, p. 90); by the Abbé Pernety, who collected notices of Swedenborg in 1781-2 and translated his *Heaven and Hell* into French with an elaborate preface; and by Letocard, who was secretary to Marteville, the Dutch ambassador whose widow is concerned in the story of the missing receipt. None of these accounts has the least evidential value. The narrators do not pretend to have been present themselves, nor do they state the evidence on which they accept the story which they tell. Jung-Stilling's and Letocard's stories agree, so far as they go, with Kant's, though they are much less detailed. (Letocard states the date as *August* 19th. As this is exactly one month after the actual date of the fire, it is presumably a slip.) Pernety's story is unique. It is that Swedenborg, on arriving at Göteborg, *was told* that his house had been burnt down in the great fire which destroyed almost the whole of the southern suburb of Stockholm in 1759. 'No,' he replied, 'my house is not burnt; the fire did not extend so far.' This afterwards proved to be true.

The reports of statements by Swedenborg himself to friends of his about his clairvoyant vision of the fire go back to two sources, viz. his friends Erik Bergström and Christopher Springer.

Bergström was the host of the King's Arms Tavern in Wellclose Square, London, and Swedenborg at one time spent ten weeks there. On subsequent visits to London he used to call on Bergström and talk with him. On 2nd May 1787 Bergström was interviewed by a Mr. Peter Provo, who took down his recollections of Swedenborg's sayings and doings. After being copied and recopied by several persons, a version of Bergström's statements came into the hands of Rev. S. Noble and was published by him in the *Intellectual Repository* for 1836. The relevant passage runs as follows: 'Swedenborg also related the story of the fire at Stockholm: that after he had gone out from the company into the garden of the house at Göteborg he returned, and told the company soon after that his house and garden were safe, and described how near the flames had come to it, though no account from thence had then arrived.'

Springer was a minor Swedish diplomat, living in London, with whom Swedenborg became very friendly. We have two accounts emanating from Springer of Swedenborg's statements to him about his vision of the fire. The first is contained in a letter which Springer wrote to the Abbé Pernety, and which the latter incorporated in the preface to his translation of *Heaven and Hell*. The passage runs as follows: 'I asked Swedenborg whether it was true, as I had been informed, that when he was at Göteborg . . . he had foretold to his friends, three days before the arrival of the post, the

precise hour of the great fire that had happened at Stockholm. To which he replied that it was exactly true.'

Springer's second statement was made to a Mr. Peckitt, who interviewed him in London in 1778. According to Peckitt, Springer then reported as follows: 'The Baron' (i.e. Swedenborg) 'was sitting with company at Göteborg . . . when he told them that that part of the town was then on fire where his house and garden were situated, but he hoped that his house would escape the flames (1759). He shortly after told them that his house was safe, but the *garden was destroyed*. When the post arrived a few days later it was as he had predicted.' It will be noted that there is a new variant here; the *house* is safe but the *garden* is destroyed.

Peckitt's interview with Springer took place six years after Swedenborg's death and nineteen years after the fire; Provo's interview with Bergström took place fifteen years after Swedenborg's death and twenty-eight years after the fire. All that we can safely conclude is this: Swedenborg in his old age evidently said, and no doubt believed, that he had had in Göteborg a clairvoyant vision of the fire in Stockholm of 19th July 1759, and in particular of the escape of his house from the flames which destroyed the neighbouring property.

It is plain that no independent evidence for the truth of this story emerges from Tafel's book. But I think that we can go further than this. Tafel must certainly have sought for such evidence, and he would certainly have printed it if he had found it. The fact that he did not find it makes it highly unlikely that, if it ever existed, it will now turn up.

SECTION TWO

RELIGION

THE VALIDITY OF BELIEF IN A PERSONAL GOD

IN order to discuss the question whether there is any ground for believing in the existence of a personal God it is necessary to begin by defining our terms. For the word 'personal' and the word 'God' are both highly ambiguous. I will begin with the word 'personal'.

The natural interpretation of the phrase 'a personal God' would be 'a God who is a person'. But, if this were the only meaning that could be attached to the phrase, we should have to say that orthodox Christians deny the existence of a personal God. For the Christian God is the Trinity; and the Trinity is not a person, though its members are persons. Now it would be extremely inconvenient to define the phrase 'personal God' in such a way that we should have to hold that all orthodox Christians deny the existence of a personal God. And, as we have seen, this inconvenient result would follow if we defined a 'personal God' to mean 'a God who is a person'. We must therefore adopt a somewhat wider definition of 'personal'. Now we notice that, whilst the Trinity is denied to be a person, it is asserted to be a complex unity composed of three intimately related constituents, each of which is a person. And I think that we should deny that a man believed in a personal God unless he believed that God either is a person or is a complex whole composed of nothing but interrelated persons. I therefore suggest that the phrase 'a personal God' means 'a God which either is a person or is a whole composed of nothing but interrelated persons'. This definition is certainly wide enough, whilst the first suggested definition was certainly too narrow. It might perhaps be objected that the proposed definition is now too wide. Would any and every God which is composed of nothing but interrelated persons be counted as a personal God? Or must the relations be of a specially intimate kind before we can apply the adjective 'personal' to a whole composed of nothing but persons? It is admitted that, according to the Christian doctrine of the Trinity, the relations between the constituent persons are ex-

tremely intimate; so much so that there is a constant danger of making statements about the Trinity which are true only of its constituents, and of making statements about its constituents which are true only of the Trinity as a whole. But I think that this question really arises rather under the definition of 'God' than under the definition of 'personal'. It is quite certain that we should not apply the name 'God' to any and every whole composed of interrelated persons; we should apply this name only if the relations were peculiarly intimate. I shall assume, therefore, that any whole composed of nothing but persons may be called 'personal' provided that the relations between the constituent persons are intimate enough for this whole to be called a 'God'.

We have not, however, finished with the definition of the adjective 'personal'. We have said that 'a personal God' means 'a God which either is a person or is a whole composed of nothing but interrelated persons'. But what do we mean by a 'person'? I do not know that we can define the term; but, by considering examples of what we should call 'persons' and by contrasting them with examples of what we should refuse to call 'persons', we can see pretty well what is involved in being a person. We call a sane grown man a 'person'. We refuse to call any inanimate object, such as a chair, a 'person'. We also refuse to call a cat or a dog or a horse a 'person', though we admit that they have feelings, impulses, instincts, habits, etc. And I think that it would be felt to be a strained and metaphorical use of language to call a very young baby a 'person'. If we reflect on these examples I think we shall see that we apply the name 'person' literally to a substance if, and only if, it fulfils the following conditions: (1) It must think, feel, will, etc. (2) Its various contemporary states must have that peculiar kind of unity which we express by saying that they 'together make up a single total state of mind'. (3) Its successive total states must have that peculiar kind of unity with each other which we express by saying that they are 'so many different stages in the history of a single mind'. (4) These two kinds of unity must be recognized by itself, and not only by some external observer, i.e. it must not only be in fact a mind, but must also know that it is a mind. And this knowledge must be, in part at least, immediate and not merely inferential; though its knowledge of many details about itself may, of course, be inferential and not immediate. It may be the case that every substance which has the kind and degree of internal unity necessary for *being* a mind also *knows* immediately that it is a mind. Still, it is one thing to *have* this kind and degree of unity, and it is another thing to *know* immediately that one has it; and it seems logically possible that the former might happen without the latter. In that case we should not, I think, refer to this

mind as a 'person'. It is therefore necessary explicitly to introduce this fourth condition.

If we accept this as an adequate description of 'being a person' there are certain further remarks to be made.

(1) There are, presumably, different degrees of personality. These differences may arise in two different ways, which must be distinguished in theory even if in fact they be causally connected so that variations in one respect causally determine variations in the other respect. (a) A mind will be more fully personal the more completely its contemporary states are united with each other to form a single total state, and the more completely its successive total states are united with each other to form the history of a single mind. In every human mind there are conflicting desires, inconsistent beliefs, and contemporary mental processes which have very little connexion with each other. And the history of every human mind is broken by gaps of dreamless sleep, fainting fits, drunkenness, and so on. (b) A mind will be more fully personal the more fully and immediately it recognizes such unity as it in fact possesses. We have all forgotten a great many states which have in fact been experienced by us, and we cannot recall them at will. And, on the other hand, we are liable to 'remember' events that never happened, and to believe falsely that they formed parts of our mental history. Now, since these defects are present in different degrees in different human minds, though they are present in some degree in all human minds, we can form the conception of a mind which is much more completely a person than any human being is; just as we can form the conception of a perfect gas or a frictionless fluid from our experiences of more or less imperfect gases and more or less viscous fluids. An ideal person would be a mind which is as fully unified as possible; which has no inconsistent beliefs, or conflicting desires, or mutually indifferent mental processes; which never sleeps or faints; and so on. And it must be as fully and immediately aware of this unity as possible. It must not forget anything that has belonged to it, though it is not necessary to suppose that it is always actually remembering everything that has ever happened to it. It is enough to suppose that it could remember any of these events whenever it wanted to. There seems to be no logical objection to the concept of an ideal person, if this be all that is meant by the phrase.

(2) There are certain judgments which we make only about persons, and certain emotions which we feel only towards what we take to be persons. We should not literally ascribe moral goodness or badness to anything which we did not believe to be a person. No one seriously talks of a virtuous baby, or regards a cat as being morally responsible for its actions. And no one can strictly

feel the emotions of love or gratitude to anything which he does not at the time regard as a person. It is true, I think, that a man may quite literally love his cat or dog, though he would admit, if questioned, that it is not a person. But an intelligent domestic animal probably has, in fact, the rudiments of personality, and, whether it has or not, its master almost certainly treats it in practice as a person whatever his theoretical beliefs on the subject may be. Again, it is certainly possible to feel emotions which are analogous to love and to gratitude towards certain wholes composed of interrelated persons, though we should admit that these wholes are not themselves persons. E.g. there is an emotion which we call 'love' for a public school, a college, or a country. And there is an emotion which we call 'gratitude' towards these institutions for the benefits which we believe them to have bestowed on us. But, in the first place, it is plain that we tend in practice to personify such a group of persons, although we know that it is not really a person. We tend, e.g. to substitute for Trinity College, which is a Society and not a person, a kind of idealized man who combines all the best qualities of all the nicest Trinity men that we have known. And, if we literally love certain actual Trinity men, we shall tend to feel an analogous emotion at the thought of this idealized Trinity man who represents Trinity College to us. Moreover, I think it is plain that, although some of the emotions which we feel towards certain groups of interrelated persons are *analogous* to love and to gratitude, they are not strictly the *same* emotions as love and gratitude. Love, in the strict sense, can be felt only towards something which we believe to be capable of loving us in return; it is always accompanied by a desire to be loved in return, and in the absence of such a response it tends at length to fade away. But we know perfectly well that a college or a public school cannot literally love us, though some of its members may do so. Yet this does not prevent us from feeling for it the emotion which I have described. Hence this emotion cannot be the same as love, in the strict sense. I conclude, then, that we cannot strictly love anything unless we believe it to be a person at the time when we are feeling the emotion.

I have now, I hope, made clear what is meant by 'being a person', and have stated some important additional facts about this characteristic. The next point to be considered is what is meant by being a 'God'. I think it is quite certain that the word 'God' is extremely ambiguous, and that it has commonly been used in at least three different, though connected, senses. I distinguish these as the popular sense, the theological sense, and the philosophical sense. In the popular sense of the word 'God' a God is *ipso facto* a person. This person is supposed to be analogous to a human being,

but to be much more powerful. It is supposed to be able to do things of a different kind from those which human beings can do, and I think that it is generally conceived as not subject to death and as exercising an important influence on the weal or woe of human beings. This is all that is involved in the notion of a God in the popular sense. It is not supposed to be necessarily unique; it is not supposed to be infinitely powerful or perfectly wise, but merely to be a great deal more powerful and a great deal wiser than any living human being. And it is not supposed of necessity to have created men or to have created the material world, nor is the continued existence of nature and of men supposed necessarily to be dependent on the continued support of a God in this sense. Lastly, a God, in the popular sense, need not be morally superior to the best human beings, though he must be wiser than the wisest and stronger than the strongest human beings. Jehovah and Apollo are Gods in the popular sense; but Jehovah inculcated a high moral tone by precept rather than by example; and Apollo, in view of his relations with Cassandra and with Hyacinthus, might have had difficulty in obtaining the College testimonial for deacon's orders, which has never been held to require a super-human level of moral achievement.

The word 'God', in the theological sense, has in one respect a wider meaning, and in other respects a narrower meaning, than the same word when used in the popular sense. A God, in the theological sense, need not be a person. According to orthodox Christian theology nothing can strictly be called 'God' except the Trinity as a whole. And the Trinity is certainly not a person. It is true that the Athanasian Creed says that the Father is God, and the Son is God, and the Holy Ghost is God; but it immediately adds that nevertheless there are not three Gods, but one God. If these statements are to be rendered consistent it is plain that the word 'God' must be used in different senses in the two. Nor is there the least difficulty in seeing what these senses are. The creed means that there is only one being that can with strict theological correctness be called 'God', viz. the Trinity as a whole. But each of the three persons can be called 'God' in a looser sense, because they are divine persons and essential constituents of the Trinity, which is God in the strict sense. Thus we might say loosely: 'The King is the sovereign of England, and the House of Lords is the sovereign of England, and the House of Commons is the sovereign of England.' But we should immediately add, in order to ward off possible errors, 'Of course, strictly speaking, there is only one sovereign of England, viz. the whole composed of King, Lords, and Commons in their proper constitutional relations to each other'. In the popular sense of 'God' each person of the Trinity

is a God, and the Trinity as a whole is not a God; but, in the theological sense of the word, the persons are not Gods, whilst the whole composed of them is a God, and is the only God that there is.

The theological sense of the word 'God' is thus wider than the popular sense, in so far as the former can be applied either to a person or to certain wholes composed of interrelated persons, whilst the latter can be applied only to a person. In all other respects, however, the theological conception of God is narrower and more rigid than the popular conception. (1) Theologians push all the attributes of God to extremes. A God, in the theological sense, must be not merely very wise and very strong; he must be perfectly wise, and capable of doing anything which does not involve some internal logical inconsistency. (2) It is an essential part of the theological conception of God that he shall be morally perfect. (3) It is also part of the theological conception of God that he shall be unique. By this I mean that theologians are not content to hold that there happens to be only one thing answering to the definition of 'God', just as there happens to be only one thing answering to the description of 'the brother of Romulus'. They hold that, from the nature of the case, there *could* only be one God, just as, from the nature of the case, there *could* only be one individual answering to the description 'the most virtuous undergraduate in Trinity'. I think that this is one reason why theologians refuse to call the persons of the Trinity 'Gods', and confine the name 'God' to the Trinity as a whole. For, in all other respects but uniqueness, the persons of the Trinity would seem to be 'Gods' in the strict theological sense. (4) Finally, it is, I think, part of the theological conception of God that he cannot be identified with the universe. There has to be some asymmetrical relation between God and the rest of the universe, so that there is a sense in which we can say that the latter is existentially dependent on the former whilst the former is not existentially dependent on the latter.

I will make a few explanatory comments on the theological conception of God before passing to the philosophical conception. (1) I do not know how far the statements of theologians about the omniscience, omnipotence, and moral perfection of God are to be taken literally. It may be that this pushing of God's attributes to extremes is only intended as a compliment; and that when God is said to be perfectly wise, and good, and powerful, these phrases are to be regarded as analogous to 'Your Serene Transparency' when applied to German princes or 'His Most Religious Majesty' when applied to Charles II. Persons who used the latter phrases plainly did not intend to deny that German princes are opaque to light, or that Charles II was sometimes inclined to be a little careless

about the higher spiritual values. And it may be that theologians do not intend their statements about God's attributes to be interpreted too literally. On that hypothesis the theological conception of God may not really differ so much from the popular conception as it seems to do. (2) We must clearly understand that not any and every group of interrelated persons would be regarded as a God even in the theological sense. It is necessary that the persons should be of a certain kind, and that their relations should have a certain high degree of intimacy. I think that the component persons must be such that each would be a God in the popular sense. And I think that the relations must be so intimate that none of the persons could exist apart from each other and outside the whole which they together form. We can see the necessity of both these conditions by taking cases where one is fulfilled and the other fails. The society of Olympus was a whole composed of interrelated persons, each of which was a God in the popular sense. But no one ever thought of regarding this whole as a God. And the reason is that the relations were not intimate enough. Zeus could have existed without Hera, and Hera could have existed without Zeus. Again, on Dr. McTaggart's view, the universe is a whole composed of persons so intimately related that none could have existed without the rest and apart from this whole. But no one would call the universe, as conceived by McTaggart, a 'God'. For its components are ourselves and other persons like us. And we are not Gods.

I pass now to the philosophic sense of the word 'God'. This is very much wider than either the theological or the popular sense of the word. A 'God', in the philosophical sense, need not be a person or a whole composed of nothing but interrelated persons. It therefore need not be wise or good, for these epithets apply only to persons. The name 'God' has been applied by certain philosophers to the Universe as a whole. Thus Hegel calls the Absolute 'God', and Spinoza talks of 'God or Nature' as synonymous terms like Augustus and Octavius. I think, however, that even in philosophy the name 'God' would be applied to the Universe only on the supposition that the Universe has a much more intimate internal unity than it appears to have at first sight, and that this unity is of a special kind. I think that all philosophers who have asserted the existence of God have held one of three views about the internal structure of the Universe: (1) That there is a certain *part* of the Universe which is not existentially dependent on anything else, and that all the rest of the Universe is existentially dependent on this part of it. This substance is then called 'God', whatever its other characteristics may be. This is the doctrine which is known as *Deism*. It is held by those philosophers who talk

of God as 'the great First Cause'. (2) That there are certain characteristics of the Universe from which all its other characteristics necessarily follow. In that case the name 'God' will often be applied by philosophers to the Universe in virtue of its having this peculiar internal structure. Thus Spinoza distinguishes between *Natura Naturans* and *Natura Naturata*. *Natura Naturans* is the Universe, regarded as having certain fundamental characteristics from which all the rest follow. And *Natura Naturata* is the Universe, regarded as having all the characteristics which follow from these fundamental ones and as having no others. The Universe in its completeness is thus *Natura Naturans* and *Natura Naturata*; and Spinoza calls it 'God' in virtue of its having this kind of internal structure. This doctrine is one form of *Pantheism*. (3) That many of the features which seem to characterize the Universe or parts of it do not really belong to it, but are distorted and partly illusory appearances of characteristics which really do belong to it; in particular, that the Universe is in reality purely mental (i.e. that it is a mind or a society of minds), and that matter, space, and motion are distorted appearances of this mind and its states or of these minds and their mutual relations. The name 'God' is then often applied by philosophers to the Universe as it really is on this view, as distinct from the Universe as it appears to be. This, I suppose, is why Hegel called the Universe 'God'.

I think we may say that no philosopher asserts the existence of God unless he holds one of these three views about the nature of the Universe. On the other hand, many philosophers who do hold one of these three views would refuse to assert the existence of God, on the ground that the word has much more definite implications in theology and in ordinary life and that the use of it in the philosophic sense is misleading. E.g., the Universe, as Dr. McTaggart believed it to be, is a God in the third philosophic sense of the term. But McTaggart always refused to call it 'God' and blamed Hegel for doing so, on the ground that the phrase 'The Absolute' completely conveys his meaning whilst the word 'God' inevitably has associations and arouses emotions which are not justified by what he believed to be the facts. Here I agree with him. I think that we ought to confine the word 'God' to the theological and the popular senses of it; and that, unless we have reason to believe in the existence of a God or Gods in one of these senses, we ought not to say that we believe in the existence of God at all. Now, in these senses of the word, a God is necessarily a personal God. It is either a divine person, or it is a whole composed of nothing but divine persons so intimately related that none of them could exist apart from the rest and outside this whole. And I have defined what I mean by a 'person' and what I mean by

'divine'. The question then is: What reason, if any, have we to believe in the existence of divine persons? For it is plain that we can have no reason to believe in wholes composed of nothing but divine persons related in certain ways unless we have reason to believe in divine persons. And we might have reason to believe in the existence of divine persons whilst we had no means of deciding whether there was one or a dozen, and no means of deciding whether they stood in such and such relations to each other or not.

A man who believes in the existence of a divine person might try to justify his belief in one of three ways: (1) He might claim to know directly that such a being exists; or (2) he might claim to be able to prove the existence of such a being, or to make it very probable, by argument; or (3) he might believe it on the authority of others. I will consider these three alleged grounds in turn.

(1) A claim to direct knowledge of God's existence might take two different forms: (a) A man might find the proposition 'God exists' self-evident, as most men find the proposition $2+2=4$. Or (b) he might claim to know that God exists because he has in some supersensible way perceived God; just as most people claim to know that their chairs and tables exist because they have perceived these objects with their senses. It is quite certain that most people who believe in the existence of God do not pretend that their belief can be justified in either of these ways. Very few people would claim that they find the proposition that God exists self-evident; and still fewer people would claim to have themselves perceived God. But such claims have been made; and there is no way of positively refuting them. But there are reasons which ought to make the claimants themselves extremely doubtful, and which ought to make us still more doubtful, about accepting their claims at their face value. It is notorious that propositions may seem self-evident although they are not true. For propositions which are inconsistent with each other, and which therefore cannot both be true, have seemed to be self-evident to different people. During the war it seemed self-evident to most Englishmen that Germans are morally inferior to the English; and it seemed equally self-evident to most Germans that Englishmen are morally inferior to Germans. One of these propositions must have been false, and probably both of them were. It may be said that in this case both parties were blinded by patriotic emotion; but it might equally be suggested that those persons who find the existence of God self-evident are blinded by religious emotion. If it appears self-evident to some people that there is a perfectly wise, good, and powerful being, it appears equally self-evident to many other people that the existence of such a being is inconsistent with the amount and

kind of evil which exists in the world. Lastly, we know what sort of propositions have appeared to be self-evident to nearly everyone and have never been in any danger of being refuted. They are always propositions which assert that one quality is necessarily accompanied by a certain other quality; they are never propositions which assert that there exists an object which has such and such qualities. Now the proposition that God exists is of the latter kind, and not of the former; it is therefore most unlikely that it is really self-evident in the sense which it is self-evident that $2+2=4$.

Let us now consider the claim to know directly that God exists because one has perceived him in some supersensible way. Perception may roughly be defined as being in direct cognitive contact with an existent something which manifests certain qualities to the percipient, and is instinctively regarded by him as a part or an appearance of a more extended and more enduring object which has certain other qualities that are not manifested to the percipient at the moment. E.g., when I say that I see a penny, I am in direct cognitive contact with something which manifests the qualities of brownness and approximately circular shape; and I instinctively regard this as a part or an appearance of something which is permanent, which has an inside as well as an outside, and which has qualities like hardness and coldness that are not at present being manifested to me. If this belief be mistaken, I am not perceiving what would commonly be called a 'penny'. Now it is notorious that in ordinary sense-perception we are often deluded and sometimes wildly deluded. A simple example is mistaking a mere mirror-image for a physical object, and a still more striking example is perceiving snakes or pink rats when one is suffering from *delirium tremens*. It is quite certain, then, that there are delusive sense-perceptions. Now, in the case of sense-perception there are several tests which we can use to tell whether a perception is delusive or not. We can check one sense by another, e.g., sight by touch. We can appeal to the testimony of others and find out whether they see anything that corresponds to what we see. Finally, we can make inferences from what we think we perceive, and find whether they are verified. We can say: 'If there are really rats running about my bed my dog will be excited, bread and cheese will disappear, and so on.' And then we can see whether anything of the kind happens. Now it does not seem to be possible to test the alleged supersensible perception which some people claim to have of God by any of these means. Very few people have had the experiences at all; they are very difficult to describe, and therefore to compare; and it is very hard to point to any verifiable consequences which would follow if, and only if, these perceptions were not delusive. And, so far as I can see, nothing comparable to

supporting the testimony of one sense by that of another is here possible. This does not, of course, prove that such supersensible perceptions *are* delusive; but it does show that we have no means of telling whether they are or are not. And, as we already know that many perceptions are delusive, this is a serious matter. As Hobbes says: 'When a man tells me that God spoke to him in a dream, all that I can be sure of is that he dreamed that God spoke to him.'

Even if we waive this objection, and take at their face value the statements of people who say that they have perceived God, they give no support whatever to the existence of a single perfectly wise, good, and powerful being, on whom all the rest of the Universe depends. They would tend rather to support the view that there is a bewildering variety of Gods in the popular sense, many of whom possess the oddest personal peculiarities.

(2) I pass now to arguments for the existence of God. These may be divided into deductive and inductive arguments. There are two of the former. One professes to prove from the definition of God that such a being must exist. This argument, if it were valid, would have the advantage of proving the existence of an unique individual possessed of all possible perfections, i.e. of God, in the theological sense. But it is universally admitted by philosophers and theologians that the argument is logically fallacious. It is called the Ontological Argument.

The second deductive argument starts from the premiss that no thing or event in nature exists of intrinsic necessity. Such necessity as we find within nature is purely relative and hypothetical. We can say that, given A, B necessarily follows. But we cannot say that A's existence or B's existence is intrinsically necessary if A and B be things or events in nature. It is then argued that, since nature as a whole has this contingent character, its existence must depend on something else whose existence is intrinsically necessary. This something is called 'God'. The argument is known as the Cosmological Argument. It is not so obviously fallacious as the Ontological Argument, and it has been accepted by some very able theologians and philosophers, such as St. Thomas Aquinas and Locke. Nevertheless, I agree with Kant and Hume that it is fallacious. Fortunately it is not necessary for me to prove this here, because the argument is irrelevant for our present purpose. For it is certain that, even if it be valid, it has no tendency to prove the existence of a *personal* God. At best it would prove the existence of God only in one of the three philosophical senses of that term, and not in the theological or the popular sense.

We may therefore dismiss the deductive arguments and consider the inductive ones. These start with certain admitted facts

about nature and man, and argue back to the existence of God as the hypothesis which best explains these facts. Of course, the conclusions of such arguments could never be more than highly probable. But I do not think that this is a serious objection. We could quite reasonably say that the existence of God was 'proved' if it could be rendered as probable as the existence of Julius Caesar. Such arguments may be classified according to their premisses. (a) They may start from certain facts about inorganic nature and living organisms. (b) They may start from the fact that nature contains minds which are capable of distinguishing good and evil and of guiding their actions by ideals. (c) They may start from the fact that certain minds have, in addition, specifically religious emotions and other experiences. A complete inductive argument would presumably use all these facts as premisses.

(a) The first set of facts forms the basis of the famous Design Argument. This has been so thoroughly discussed by Hume in his *Dialogues on Natural Religion* that there is little left to say about it. I will content myself with the following remarks: (i) We must distinguish between the adaptation of inorganic nature to life in general, and the peculiarities of organisms as such. Let us begin with the former. It is certain that the condition of inorganic nature on the earth is, and has long been, extremely well adapted to the existence and growth of living organisms. So far as we know, the conditions under which organisms can exist are very peculiar, so that it is antecedently improbable that they should be fulfilled. Hence it is argued that they must have been deliberately brought about by a mind which wanted organisms to exist and flourish. This, I think, is a fallacious argument. It seems certain that the fulfilment of these conditions is really very local and temporary. They are probably not fulfilled now in the greater part of the Universe; they certainly were not fulfilled formerly on the earth, and they almost certainly will cease to be fulfilled there in the distant future. Now it is not antecedently improbable that even very peculiar conditions shall be fulfilled for a comparatively short time in a comparatively small region of a universe which is indefinitely extended in both Space and Time. (ii) The position about organisms themselves is as follows. An organism is an extremely intricate system which appears, even to the most superficial view, to be extraordinarily well adapted to preserve itself in face of varying conditions and to produce things like itself. And the more minutely we examine it the more accurately true do we find this to be. Now the only other things that we know of which have the least analogy to this are artificial machines. We know that these have been designed by minds, and we have not the least reason to think that they could have existed unless there had

been minds which designed them and arranged their parts in such a way as to carry out these designs. Of course organisms are now produced by other organisms, just as typewriters are produced by other machines. But in the history of any artificial machine we eventually come back to a mind which had designs and arranged matter in such a way as to carry them out. We may assume, by analogy, that if we went far enough back in the history of organisms we should come on a mind which designed them and arranged matter accordingly. This mind was certainly not human, and it must certainly have been of superhuman wisdom and power to produce such results. It may therefore fairly be called 'God'.

I may say at once that I consider this to be an extremely strong argument if we grant two assumptions which are commonly made. The first is that organisms originated from inorganic matter. The second is that an organism really is nothing but a complicated machine, i.e. that its characteristic behaviour is wholly due to the peculiar arrangement of its parts, and is not due to entirely new properties of matter which first appear at the organic level. If we reject either of these assumptions the argument loses much of its force. If there have always been organisms of some kind, and no organism has ever originated from inorganic matter, there is no need to postulate a designing mind even though organisms be nothing but machines. And if organisms be not merely machines, there is no need to postulate a designing mind even though organisms did originate out of inorganic matter. Now, I do not see the least reason to believe that the characteristic behaviour of organisms can be wholly explained by the peculiar arrangement of their parts and the laws and properties of inorganic matter. Hence the argument for the existence of a designing mind from the peculiarities of organisms does not convince me, though I think it ought to have great weight with a purely mechanistic biologist.

(iii) Even if we accept the argument it will not prove the existence of God, in the theological sense. In the first place, it would prove only that a designing mind *had* existed in the past, not that it *does* exist now. It is quite compatible with this argument that God should have died long ago, or that he should have turned his attention to other parts of the Universe. Again, so far from proving the existence of a being on whom the rest of the Universe is existentially dependent, it negatives this supposition. It proves the existence of a superhuman workman faced with material whose properties he has to recognize and make use of, and not of a creative being. Thirdly, there is nothing in the facts to suggest that there is only one such being. And lastly, there is nothing to suggest that he is morally perfect. We must grant him superhuman skill and power, but the actual state of the world forces us to limit either

his power or his goodness, or his wisdom, or all three. So, at the very best, the argument would prove only that at some time in the remote past there had been one or more Gods in the popular sense of the word.

(b) I will now consider the argument for the existence of God from the existence of minds like ours which can look before and after, make judgments of good and evil, and guide their conduct by them. It may be admitted that we cannot conceive of any natural process by which minds could have arisen spontaneously from mere matter. So it has been suggested that we must postulate the existence of God to account for the facts. But, in the first place, there is no reason to accept the alleged facts; and secondly, the hypothesis of a God would provide no explanation of them. (i) It is quite possible that there have always been minds, and that no mind has ever originated from anything but another mind by a natural process. In that case the hypothesis of God is needless for the present purpose. (ii) If we make the hypothesis we have explained absolutely nothing. We are still obliged to suppose that there have always been minds, though not always non-divine minds. And the production of non-divine minds from mere matter remains just as unintelligible whether we say that it happens spontaneously or that it is miraculously accomplished by God.

The fact is that the Argument from Design and the argument which I have just been discussing illustrate an important general principle. If you start with a sufficiently narrow and inadequate view of nature you will have to postulate a God to get you out of the difficulties in which it lands you. E.g., if you insist that living organisms are mere machines, you have to postulate God to construct them out of unorganized matter. And if you insist that nature is fundamentally material and that mind is a kind of after-thought, you have to postulate God to account for the origin of mind, though, as I have pointed out, the hypothesis does not here really help you. But why should you start with these narrow and inadequate views of nature? They have no trace of self-evidence and they conflict with the observable facts in every direction. And, unless you make this mistake at the outset, I do not think you will be able to find any inductive proof of the existence of God.

(c) Finally, I come to the argument for the existence of God which is based on the occurrence of specifically mystical and religious experiences. I am prepared to admit that such experiences occur among people of different races and social traditions, and that they have occurred at all periods of history. I am prepared to admit that, although the experiences have differed considerably at different times and places, and although the interpretations which have been put on them have differed still more, there are

probably certain characteristics which are common to all of them and which suffice to distinguish them from all other kinds of experience. In view of this I think it more likely than not that in religious and mystical experience men come into contact with some Reality or some aspect of Reality which they do not come into contact with in any other way.

But I do not think that there is any good reason to suppose that this Reality which manifests itself to certain men in religious and mystical experiences is personal. I think that we are inclined to believe this because we are most familiar with the religious experiences of Western Europeans and of Jews, most of whom have put this interpretation upon them. We do not know, or we forget, that the mystics and religious teachers of the Far East on the whole definitely reject this interpretation. And we are inclined to forget that certain Europeans, such as Plotinus and Spinoza, who have had these experiences also reject this interpretation of them.

I think on the whole, then, that there is no inductive argument which makes it at all highly probable that there is a personal God.

(3) It only remains to consider whether it is reasonable to believe in the existence of a personal God on the authority of other men. We all believe many propositions on authority, and in many cases it would be most irrational not to do so. It is rational to believe a proposition on authority if one of two conditions is fulfilled. (i) If experts agree that it can be proved, but the argument is too difficult or unfamiliar for me to follow it myself. (ii) If persons whom I know to be competent and trustworthy tell me that they have perceived certain things which I have not perceived myself. I accept many propositions in mathematics on the authority of Professor Hardy, who tells me that they can be proved; and I accept many propositions in physics on the authority of Professor Rutherford, whom I know to be a trustworthy person and a highly skilled experimenter and observer. But neither of these conditions is fulfilled in the case of the proposition that there exists a personal God. There is no consensus of experts about the alleged proofs, and I can see for myself that these arguments are fallacious. And I have tried to show that the claims of certain persons to have perceived God in some supersensible way are to be regarded with grave suspicion even if we accept their *bona fides*. Hence it would be irrational for me to believe in the existence of a personal God on the authority of others.

To conclude. Whether there be in fact a personal God or not, it seems to me that we have no good reason to believe in the existence of such a being. I think that there are such grave difficulties in the notion of a God in the theological sense that there are strong

reasons against believing that such a being exists. These objections do not apply to the notion of Gods in the popular sense. For all I can see there may be dozens of such Gods; and the only reason *against* being a polytheist is that there is no reason *for* being one.

ARGUMENTS FOR THE EXISTENCE OF GOD

FROM the time of Plato at latest learned men in Europe have excogitated a considerable number of arguments which have the following feature in common, viz. that they would be described as 'professing to prove the existence of God'. I purposely delimit the class of arguments which I have in mind by this purely verbal description because the word 'God' has been used in so many different senses by different thinkers. It is doubtful whether there is anything common and peculiar to all these arguments except that the conclusions of all of them are stated in the verbal form 'God exists' or in a translation of this into Greek or Latin or some other tongue.

The object of the present paper is to classify these arguments and then to discuss in some detail a selected few of them. The selection will be made in respect of philosophical interest or historical importance, and the arguments chosen will be discussed with a view to determining what precisely they would prove, if they were valid, and whether they are in fact valid. An argument may fail to prove its conclusion either through its premisses being doubtful or through its structure being logically defective. Nevertheless, the persons who employed it may have had something of importance at the back of their minds, and the criticism which shows the argument to be invalid may incidentally separate this grain of wheat from the chaff which has surrounded it.

Classification of the Arguments

I begin with a very external and superficial division of these theistic arguments, viz. into those which are closely bound up with the peculiar doctrines of some particular philosophic system and those which are not. An example of the former is Berkeley's argument that God must exist in order to cause those bundles and sequences of correlated sensations which plain men mistakenly believe to be manifestations of material things. I shall neglect these highly special arguments and confine myself henceforth to more general ones which have been very widely used and accepted.

We may divide up the latter arguments, to begin with, in accordance with the nature of their premisses. This gives the following three classes: (1) Arguments whose premisses include neither specifically ethical nor specifically religious propositions; (2) Arguments whose premisses include specifically ethical but not specifically religious propositions; (3) Arguments whose premisses include specifically religious propositions.

The first class may be subdivided into (1·1) arguments which do *not*, and (1·2) those which *do*, use an existential premiss, i.e. a proposition of the form *So-and-so exists*. There is one and only one argument which does not use an existential premiss. This is the famous *Ontological Argument*, invented by St. Anselm of Canterbury. Arguments which do use an existential premiss always employ also some form of the notion of causation. For the only way in which one can infer that X exists from the fact that Y exists is by showing that the existence of X is a necessary condition for the existence of Y. These latter arguments fall into two sub-classes, according to the nature of the existential premiss that they use. These are (1·21) arguments which use only the highly indeterminate premiss *Something or other exists*, and (1·22) those which use a more determinate premiss of the form *Something having such and such a nature exists*. It is plain that a premiss of the latter kind is needed if one is to prove the existence of anything with assignable non-formal properties, i.e. properties beside those of existing, being a substance, being a cause, and so on. There is one argument in each of these classes. That which starts from the indeterminate existential premiss is called the *Cosmological Argument*. It goes back at least to Aristotle, and it is accepted by St. Thomas, Descartes, Leibniz, Locke, and many other philosophers. The argument which starts from determinate existential premisses about the nature and inter-relations of actual things is called the *Argument from Design* or the *Physico-theological Argument*. These are the three arguments of what Kant calls 'Speculative Theology'.

I do not know of any systematic way of subdividing the arguments with ethical but without religious premisses or the arguments with specifically religious premisses. So we will leave our classes (2) and (3) undivided.

Before leaving the subject of classification I wish to call attention to the following question. Let us suppose that several of these arguments, e.g., the *Cosmological Argument*, the *Argument from Design*, and the *Argument from Religious Experience*, turned out to be valid, in the sense that each of them established the existence of *something* which, in one sense or another of the word 'God', could be called 'God'. What would be the relation between the conclusions of these various valid arguments? I think that it is

commonly and uncritically assumed that they would all establish the existence of *the same* something; and that, from the evidential standpoint, they would be like so many strings, each attached to a different hook, and all co-operating to support a single weight. It is assumed that the differences in the conclusions would reduce to the fact that some supply us with more determinate information than do others about the common object whose existence they all conspire to establish, or that one reveals one aspect and others reveal other aspects of this common object. Now this assumption may be correct, but we have no right whatever to make it uncritically. In view of the extreme ambiguity of the word 'God' and the extreme variety of the premisses and the modes of reasoning in the several types of theistic argument, it would seem to me that there is a strong presumption against any such identification. If, e.g., two such utterly different arguments as the Cosmological Argument and the Argument from Design both establish the existence of something that can be called 'God', it seems most likely that they establish the existence of two different 'Gods', one a ground and not a designer, and the other a designer and not a ground, of the rest of the universe. Anyone who claims to identify the two should be expected to bring forward strong positive evidence for doing so. Unless such an identification can be justified, the various arguments cannot be regarded as corroborating each other. They will be like so many different strings, each acting as the sole support of a different weight.

I will now consider some of the arguments in detail, and I will begin with:

(11) *The Ontological Argument.* This argument presupposes the notion of degrees of 'reality' or 'perfection'. This notion is never clearly defined, but it seems to amount roughly to the following. *A* would be said to have 'more reality' or 'a higher degree of perfection' than *B*, if either of the two following conditions were fulfilled. (i) *A* has all the positive powers and qualities which *B* has and, in addition, it has some which *B* lacks. (When this condition is fulfilled we will say that *A* is '*extensively* superior to *B*'.) (ii) *A* is either extensively equal or extensively superior to *B*; some of the positive qualities or powers which are common to both are present in *A* with a higher degree of intensity than in *B*; and none of them are present in *B* with a higher degree of intensity than in *A*. (When this condition is fulfilled we will say that *A* is '*intensively* superior to *B*'.)

Now the first thing to notice is that these two criteria do not allow us, even in theory, to arrange everything in a single scale of perfection. Plainly the following cases are logically possible. (i) It might be that *A* has some powers or qualities which *B* lacks, and

that *B* has some which *A* lacks. Cats, e.g., can climb trees, whilst dogs cannot; but dogs can track by scent, whilst cats cannot. In that case *A* is neither extensively superior, nor equal, nor inferior, to *B*. Now the criterion for intensive superiority presupposes extensive equality or superiority between the terms to be compared. Therefore, in the case supposed, there can be no comparison between *A* and *B* in respect of either extensive or intensive perfection.

(ii) *A* might be extensively superior to *B* and intensively inferior.

(iii) *A* and *B* might be extensively equal. But some of their common powers or qualities might be present in *A* with greater intensity than in *B*, whilst others of them might be present in *B* with greater intensity than in *A*. Let us suppose, e.g., that the minds of any two human beings are extensively equal. How are we to compare, in respect of intensive perfection, a mathematical genius of very slight musical capacity with a musical genius of very slight mathematical capacity?

These considerations are highly relevant to the Ontological Argument; for it uses the phrase 'most perfect being', and it presupposes that this is not meaningless verbiage like the phrase 'greatest integer'. In accounts of the Ontological Argument one finds the phrase 'most perfect being' translated in two different ways, one comparative and the other positive. The comparative interpretation makes it equivalent to the phrase 'a being such that nothing more perfect than it is logically possible'. The positive interpretation makes it equivalent to the phrase 'a being which has all positive powers and qualities to the highest possible degree'. Now, as Leibniz noted, it becomes very important at this point to consider whether all positive characteristics are mutually compatible, i.e. whether it is possible for them all to co-inhere in a common subject. Let us consider how this affects the two interpretations of the phrase 'most perfect being'.

(i) Evidently, unless all positive characteristics are mutually compatible, the positive interpretation becomes meaningless verbiage. Suppose, e.g., that it is impossible for an extended substance to be conscious and impossible for a conscious substance to be extended, then it is impossible that there should be a substance which has all the positive properties that there are. The phrase 'a being which has all positive powers and qualities' would be meaningless verbiage like the phrase 'a surface which is red and blue all over at the same time'.

(ii) How would the comparative interpretation of the phrase 'most perfect being' fare on the same supposition, viz. that not all positive properties are compatible with each other? Let us suppose, e.g., that there were just three positive properties X, Y, and Z; that any two of them are compatible with each other; but that the

presence of any two excludes the remaining one. Then there would be *three* possible beings, viz. one which combines X and Y, one which combines Y and Z, and one which combines Z and X, *each* of which would be such that nothing extensively superior to it is logically possible. For the only kind of being which would be extensively superior to any of these would be one which had all three properties, X, Y, and Z; and, by hypothesis, this combination is logically impossible. Moreover, these three beings, each of which answers to the comparative definition of a 'most perfect being' so far as concerns extensive perfection, would be incomparable with each other in this respect. For, if you take any two of them, e.g., XY and YZ, each has a positive property which the other lacks. Now the Ontological Argument talks, not merely of 'most perfect beings', but of '*the* MOST PERFECT BEING'. It is now plain that, unless all positive properties be compatible with each other, this phrase is just meaningless verbiage like the phrase 'the greatest integer'.

(iii) Let us now make the opposite supposition, viz. that all positive properties are mutually compatible. Then it is easy to see that nothing could answer to the comparative definition of 'most perfect being' unless it answered to the positive definition of that phrase. For consider any substance which had some but not all of the positive properties. Since all positive properties are now assumed to be compatible with each other, it is logically possible that there should be a substance which should have all the properties which the one under consideration *has*, together with the remaining ones which it *lacks*. This would be extensively superior to the one under consideration, and therefore the latter would not answer to the comparative definition of a 'most perfect being'.

(iv) I have now shown (*a*) that the phrase 'the most perfect being' is meaningless unless all positive properties be compatible with each other; and (*b*) that, if they be all mutually compatible, nothing could answer to the comparative interpretation of the phrase unless it answered to the positive interpretation thereof. The next point to notice is that, even if all positive properties be mutually compatible, the phrase 'most perfect being' may still be meaningless verbiage. For we have now to attend to that part of the positive interpretation of the phrase which we have hitherto ignored, viz. that each positive property is to be present in the highest possible degree. Now this will be meaningless verbiage unless there is some *intrinsic* maximum or upper limit to the possible intensity of every positive property which is capable of degrees. With some magnitudes this condition is fulfilled. It is, e.g., logically impossible that any proper fraction should exceed the ratio $1/1$; and again, on a certain definition of 'angle', it is logically impossible for any angle to exceed four right angles. But it seems quite clear

that there are other positive properties, such as length or temperature or pain, to which there is no intrinsic maximum or upper limit of degree.

For these reasons it seems to me fairly certain that the Ontological Argument is wrecked before ever it leaves port. However, we will waive these objections and consider the argument itself. I will try to state it as plausibly as I can. It might be put as follows: 'Anything that lacked existence would lack a positive property which it might conceivably have had. Nothing which lacked a positive property which it might conceivably have had would be a most perfect being; for it is logically possible that there should be something superior to it, viz. a being which resembled it in all other respects but had the additional property of existence. Therefore no most perfect being would lack existence. Therefore all most perfect beings exist.'

Let us now consider this argument. It has two steps, viz. a syllogism followed by an immediate inference. There is nothing wrong with the syllogism in respect of its verbal form. It is verbally of the form 'Anything that lacked P would lack M. Nothing that lacked M would be S. Therefore no S would lack P.' This breaks none of the rules; it is in fact a slightly disguised form of the valid fourth-figure syllogism *Camenes*. The second step looks like a generally accepted form of immediate inference, viz. Obversion. But at this point there is a serious risk of a fallacy. The verbal form 'All S is P' is ambiguous. It may mean simply 'If anything were S it would be P', or, what is equivalent, 'Anything that was S would be P'. Interpreted in this way, it leaves the question whether anything *in fact* is S quite open. We will call this the 'conditional' interpretation. On the other hand, it is much more often taken to mean 'There are some S's and none of them lack P'. This may be called the 'instantial' interpretation. Now it is a general principle of logic that it is always illegitimate to draw an instantial conclusion from premisses which are wholly conditional. Let us now apply these principles to the second step of the argument.

The two premisses of the syllogism are purely conditional. Therefore the conclusion must be interpreted purely conditionally if the syllogism is to be valid. So the conclusion of the syllogism must be taken to be 'If anything were a most perfect being it would not lack existence'. Now all that can be legitimately inferred from this by obversion is the conditional proposition 'If anything were a most perfect being it would exist'. If you interpret the sentence 'All most perfect beings exist' in this way, the conclusion follows from the premisses but is completely trivial and useless. If, on the other hand, you interpret it instantially, i.e. take it to mean 'There are most perfect beings and none of them lack existence', there are

two fatal criticisms to be made. (i) You are attempting to draw an instantial conclusion from purely conditional premisses and therefore are committing a logical fallacy. (ii) The sentence as a whole is pleonastic. It is idle to add 'none of them lack existence' to 'there are so-and-so's', whether the so-and-so's be most perfect beings or potatoes or dragons.

Let us now consider the syllogism itself. As I have said, it is correct in verbal form. Nevertheless, as I shall now proceed to show, it is radically vicious. Its defect is, not that its premisses are false, but that they are meaningless. They are sentences which seem, from their verbal form, to express propositions; but in fact they express nothing whatever. The argument presupposes that existence is a quality or power, like extension or consciousness or life; it assumes that there is sense in talking of a comparison between a non-existent term and an existent term; and it produces the impression that this is like comparing two existing terms, e.g., a corpse and a living organism, one of which lacks life and the other of which has it.

Now all this is nonsensical verbiage. It is intelligible to make a *categorical* comparison between two actual existents, e.g., Hitler and Stalin, in respect of their qualities and powers. It is intelligible to take a description of a merely possible existent, e.g., a creature with a horse's body and a man's head, and to make a *conditional* comparison with an actual existent. It is, e.g., intelligible to say 'If a centaur existed (or, if there were a centaur), it would be swifter than any actual man and more rational than any actual horse'. Lastly, it is intelligible to take descriptions of two merely possible existents, and to make a doubly conditional comparison. It is, e.g., intelligible to say 'If centaurs existed and unicorns existed (or, if there were centaurs and unicorns), the former would be superior (or inferior) to the latter in such and such respects'. Now the Ontological Argument professes to make a *categorical* comparison between a non-existent and an existent in respect of the presence or absence of *existence*. The objection is twofold. (i) No comparison can be made between a non-existent term and anything else except on the hypothesis that it exists. And (ii) on this hypothesis it is meaningless to compare it with anything in respect of the presence or absence of *existence*.

It is evident, then, that the Ontological Argument must be rejected. Probably most people feel that there is something wrong with it; but the important and interesting and not too easy task is to put one's finger on the precise points at which it goes wrong. When a fallacious argument has seemed cogent to many people of the highest intelligence, such as St. Anselm, Descartes, and Leibniz, it is desirable to supplement the refutation of it by an attempt

to explain the causes of its plausibility. I believe that there are two causes, in the present case; and I will now proceed to exhibit them.

(i) The first and most important cause of the illusion is the fact that existential propositions and characterizing propositions are expressed by sentences which have the same grammatical form. Thus, e.g., existential propositions are expressed by such sentences as 'S exists' or 'S is real', while characterizing propositions are expressed by such grammatically similar sentences as 'S eats' or 'S is red'. This linguistic fact tempts people to assume uncritically that existential propositions are *logically* of the same form as characterizing propositions. This uncritical assumption makes the Ontological Argument seem plausible. But it is certainly false, as can easily be shown. The demonstration of this fact may be put as follows.

Let us begin with the two negative propositions *Cats do not bark* and *Dragons do not exist*. It is obvious that the first is about cats. But, if the second be true, it is certain that it cannot be about dragons; for there will be no such things as dragons for it to be about. The first might be expressed, on the conditional interpretation, by the sentence 'If there were any cats, none of them would bark'. On the instantial interpretation it might be expressed by the sentence 'There are cats, and none of them bark'. Suppose you try to express the negative existential proposition in the same way. On the first alternative it would be expressed by the sentence 'If there were any dragons, none of them would exist'. On the second alternative it would be expressed by the sentence 'There are dragons, and none of them exist'. Both these sentences are self-contradictory and meaningless. So, if you try to analyse negative existential propositions in the same way as negative characterizing propositions, you will find that they are all self-contradictory. But it is plain that *Dragons do not exist* is *not* self-contradictory. It is not only logically possible but is almost certainly true.

Now consider the two affirmative propositions *Cats scratch* and *Cats exist*. On the conditional interpretation the former would be expressed by the sentence 'If there were any cats, none of them would fail to scratch'. On the instantial interpretation it would be expressed by the sentence 'There are cats, and none of them fail to scratch'. Suppose you try to express the affirmative existential proposition in the same way. On the first alternative it would be expressed by the sentence 'If there were any cats, none of them would fail to exist'. On the second alternative it would be expressed by the sentence 'There are cats, and none of them fail to exist'. Now both these sentences are mere platitudes. So, if you try to analyse affirmative existential propositions in the same way as affirmative characterizing propositions, you will find that they are all plati-

tudes. But it is plain that *Cats exist* is not a mere platitude. It is a substantial proposition which might very well be doubted by a person who had never seen a cat. So it is certain that existential propositions need a different kind of analysis.

The right analysis, as is now well known, is somewhat as follows. These propositions are not about cats or dragons, i.e. about *things* which have the cat-characteristics or the dragon-characteristics. They are about these *characteristics* themselves. What they assert is that these characteristics do apply to something or that they do not apply to anything, as the case may be. 'Cats exist' is equivalent to 'The defining characteristics of the word "cat" apply to something'. Again 'Dragons do not exist' is equivalent to 'The defining characteristics of the word "dragon" do not apply to anything'. Suppose, e.g., that a 'dragon' is defined as a reptile which flies and breathes fire. Then the statement that dragons do not exist is equivalent to the statement that nothing combines the three properties of being a reptile, of flying, and of breathing fire. Such statements are neither tautologies nor contradictions.

It only remains to apply this analysis to statements about the existence or non-existence of a most perfect being. To say that a most perfect being exists is equivalent to saying that something has all positive characteristics to the highest possible degree. For reasons which I have given, it seems likely that this is not only false but also self-contradictory and nonsensical. To say that a most perfect being does not exist is equivalent to saying that nothing has all positive characteristics to the highest possible degree. For the same reasons it seems likely that this is not only true but a truism.

(ii) I strongly suspect that another linguistic fact about the use of the word 'exist' has helped to make the Ontological Argument seem evident truth instead of meaningless nonsense. It is not uncommon to say, of a person or animal who has died, that he has 'ceased to exist'. Now in this case there is something visible and tangible left, viz. the corpse, which can be compared with the person or animal as he was before he died. Moreover, it is obvious that a living organism is more perfect than a corpse. This leads people to think of existence as a positive characteristic which can be added to or subtracted from a thing, and whose presence makes a thing more perfect than it would have been without it. But, in the sense of 'existence' required for the Ontological Argument, a corpse exists as much as a living organism. So this linguistic fact does nothing to *justify* the speculations which it *encourages*.

(1.2) *The Cosmological Argument.* This argument goes back, historically, to a physical argument of Aristotle's about motion. Aristotle's attempt to prove that there must be an unmoved cause of motion is of considerable interest, but, for the present purpose,

it seems more profitable to consider the argument in a less specialized form. It may be put as follows.

It starts with the premiss that there are particular things, persons, events, etc. Each of us, e.g., can take himself as an indubitable instance of a particular person and can take any one of his present experiences as an indubitable instance of a particular event. Now any thing or person begins to exist at a particular time and place, lasts for a longer or shorter period, and then ceases to exist. Similarly, any event in the history of a thing or person begins at a certain time. Now the coming into existence of a thing or person of such and such a kind at a certain time and place is felt to need explanation. Similarly, the occurrence, at a certain date in the history of a thing or person, of a change of such and such a kind is felt to need explanation. The first move is to try to explain it by reference to previously existing things or persons (such as parents) and by reference to earlier events. We will call this 'explanation in terms of ordinary causation'. Now this kind of explanation is, in one respect, never completely satisfactory. This is for two reasons. The first is that such explanations always involve a reference to *general laws* as well as to particular things, persons, and events. Now the general laws are themselves just brute facts, with no trace of self-evidence or intrinsic necessity about them. The second and more obvious reason is the following. The earlier things, persons, and events, to which you are referred by explanation in terms of ordinary causation, stand in precisely the same need of explanation as the thing or person or event which you set out to explain. It is obvious from the nature of the case that no extension of this kind of explanation to remoter and remoter depths of past time has the slightest tendency to remove this defect.

Before continuing the argument I would point out that nothing that has been said casts any doubt on the theoretical interest or the practical importance of explanation in terms of ordinary causation. When we 'explain' in this way we are learning more and more about the inter-connexions of things and events in time and space. Moreover, by learning these facts, we are enabled to acquire more extensive control over nature, to make new kinds of substances, and to modify the course of future events.

We can now go on with the argument. It is alleged that we can conclude, from the negative facts already stated, that there must be a substance which is neither a part of nature nor nature as a collective whole. And we can conclude that there is another kind of dependence, which is not the ordinary dependence of a later state of affairs on an earlier one in accordance with *de facto* rules of sequence. The existence of this non-natural substance must be intrinsically necessary. And the existence of all natural events and

substances must be dependent upon the existence of this non-natural substance by this non-natural kind of dependence.

Let us now consider whether this argument is valid. It may be divided into two parts, negative and positive. At the transition from the negative to the positive part there is a suppressed premiss. My criticism will be as follows. (i) I accept the negative part of the argument. (ii) The suppressed premiss, which forms the transition from the negative to the positive part, seems to me to be false. Therefore I see no reason to accept the conclusion. (iii) I suspect that the conclusion is not only unproven but is either false or meaningless. I will now develop these statements.

(i) What kind of explanations do completely satisfy the human intellect? The human intellect is completely satisfied with a proposition when either (a) the proposition is seen to be intrinsically necessary by direct inspection of its terms, or (b) it is seen to follow by steps, each of which is seen to be intrinsically necessary, from premisses which are all seen to be intrinsically necessary. This kind of complete intellectual satisfaction is reached in pure mathematics and hardly anywhere else. Now it is quite certain that no explanation in terms of ordinary causation is capable of giving this kind of satisfaction to the intellect. For no causal law has any trace of self-evidence, and no premiss to the effect that such and such things existed or that such and such events happened in the past has any trace of self-evidence. The causal explanations of science are useful for predicting and controlling the future, for reconstructing the past, and for learning about what is remote in distance or minute in size. But they provide no explanation of anything in the sense in which the proof of a proposition in pure mathematics does provide a completely satisfactory explanation of the mathematical fact asserted by that proposition.

Now it is logically possible that complete intellectual satisfaction should be obtained about natural events and substances if and only if the following conditions were fulfilled. (a) If there were one or more existential propositions which are intrinsically necessary, like mathematical axioms. And (b) if all other true existential propositions followed with strict logical necessity from these, combined, perhaps, with certain intrinsically necessary universal premisses. Suppose that these conditions were fulfilled; and suppose, further, that there were a man who *actually knew* these intrinsically necessary premisses and *actually saw* in detail that they entail, e.g., the existence at a certain time and place of a person answering to the description of the historical Julius Caesar. Then he would *actually enjoy* complete intellectual satisfaction about the existence of Julius Caesar.

I therefore accept so much as follows of the Cosmological Argu-

ment. I admit that no explanation in terms of ordinary causation is capable of giving that kind of intellectual satisfaction about natural things and persons and events which is obtainable about purely mathematical facts. And I admit that, if the universe is such that this kind of intellectual satisfaction is theoretically obtainable about nature, then its structure must be very much as philosophic Theism says that it is.

(ii) The Cosmological Argument claims to prove a categorical proposition, viz. that the universe has this structure. In order to do so it must add a categorical premiss to the hypothetical proposition which I have just admitted. It is plain that this categorical premiss is the proposition that the universe *is* such that this kind of intellectual satisfaction about natural things, persons, and events is, at least in theory, obtainable. This, then, is the suppressed premiss of the argument. Is there any reason to accept it?

We must not unfairly exaggerate what it claims. It is not asserted that any human being ever will in fact enjoy this kind of intellectual satisfaction about nature as a whole or about a single natural thing or person or event. All that is asserted is that the universe is such that a mind, which worked on the same general principles as ours but had indefinitely greater knowledge of detail and power of seeing logical connexions and keeping them before it without confusion, would find every fact about nature perfectly intelligible, in the sense in which everything in pure mathematics is perfectly intelligible to the mathematician. Now I do not see the least reason to believe this. Plainly it is not the kind of premiss for which there is or could be any empirical evidence. Nor is it self-evident or deducible from any premisses which are self-evident. Wherever we have this kind of completely satisfactory insight we are dealing with the formal relations of abstract entities, such as numbers or propositions, and not with the existence or the non-formal properties of particulars. There is no reason whatever to think that this kind of rational insight is possible in the latter case.

(iii) I think that we can go much farther than this in the negative direction. We have seen that an indispensable condition, without which it is logically impossible for nature to be capable of satisfying the intellect in the sense defined, is that there should be some intrinsically necessary existential propositions. Now, in criticizing the Ontological Argument, we saw that 'So-and-so exists' is equivalent to 'There is something which has such and such a set of characteristics', where this set of characteristics constitutes the definition or description of a certain possible object. Therefore an intrinsically necessary existential proposition would be of the form 'There *must be* something which has the characteristics x, y, z, etc.', where this set of characteristics constitutes the definition or descrip-

tion of a certain possible object. Or, to put it the other way round, 'The set of characteristics, x, y, z, etc., *must* together belong to something'.

Now it seems to me evident that there can be no intrinsically necessary propositions of this kind. Necessary propositions are always about the connexion (or disconnexion) of one *attribute* with another *attribute* or one *proposition* with another *proposition*, and they are always *conditional*. They are always of the form 'If anything had the attribute x, it would necessarily have the attribute y', or 'If p were true, then q would be true'. If I am right on this point, it follows that the conclusion of the Cosmological Argument is not only unproven but is false. And it follows that the suppressed premiss of the argument is false. That is, we can be quite certain that the universe cannot be of such a structure that the kind of intellectual satisfaction which is possible in pure mathematics might conceivably be attained about the things and persons and events of nature.

Even if this objection be waived, an equally formidable one remains. Let us suppose, for the sake of argument, that the suppressed premiss is true. Then I think it is easy to show that, even if there were an existent or existents whose existence is intrinsically necessary, this would not in the least help to make nature theoretically intelligible in the sense required. The difficulty is as follows. Anything whose existence was a necessary consequence of its nature would be a *timeless* existent. If a certain set of attributes is such that it *must* belong to something, it is nonsensical to talk of its beginning to belong to something at any date, however far back in the past. It would be like talking of a date at which equilateral triangles began to be equiangular. Now nature is composed of things and persons and processes which begin at certain dates, last for so long, and then cease. But how could a *temporal* fact, such as the fact that there began to be a person having the characteristics of Julius Caesar at a certain date, follow logically from facts all of which are *non-temporal*? Surely it is perfectly obvious that the necessary consequences of facts which are necessary are themselves necessary, and that the necessary consequences of facts which have no reference to any particular time can themselves have no reference to any particular time.

I may therefore sum up my criticisms on the Cosmological Argument as follows. The argument presupposes that nature must be, in principle, capable of satisfying the intellect in the way in which it can be satisfied in pure mathematics. It rightly denies that explanations in terms of ordinary causation, however far back they may be carried, have any tendency to produce this kind of intellectual satisfaction. It argues that such intellectual satisfaction

about nature would be in principle obtainable if and only if the two following conditions were fulfilled: (i) that there is at least one particular such that the existence of a particular of that nature is an intrinsically necessary existential fact; (ii) that all facts about the existence of such natural substances as do exist and about the occurrence of such natural events as do occur are necessary consequences of these intrinsically necessary existential facts. The conclusion of the argument is that these two conditions must be fulfilled. Now the objections are these. (i) It is not in the least evident that nature must be in principle capable of satisfying the intellect in this peculiar way. (ii) The first of the two conditions which are necessary for the fulfilment of this demand appears, on reflexion, to be almost devoid of meaning and almost certainly incapable of realization. (iii) Even if the first condition were fulfilled, it is self-evidently impossible that the second should be. For this would require that facts about the existence of things and the occurrence of events at certain dates should be necessary consequences of facts which are all without any temporal reference whatever.

Suppose now that all these objections could be overcome. What kind of conclusion would the Cosmological Argument establish, and how is this argument related to the Ontological Argument? In answer to the first question there are two remarks to be made. (a) The Cosmological Argument, by itself, would not justify the conclusion that there is *only one* substance whose existence is a necessary consequence of its nature and from which *alone* the existence of everything else follows. It would justify only the less determinate conclusion that there is *at least one* such substance, and that from the existence of *it or of them* the existence of everything else follows. (b) If the conclusion of the Cosmological Argument be accepted, it follows that there are no really contingent facts. The fact that a person having the nature which I have was born at a certain time and place, and the fact that he sneezed at 11.15 yesterday, may seem contingent relatively to our ignorance. But, if we accept the Cosmological Argument, we know that these facts must be necessary consequences of facts which are all intrinsically necessary. Therefore they cannot really be contingent. All that is possible will be actual, and all that is actual will be necessary. This, as we all know, is the consequence which Spinoza drew in Book I of his *Ethics*, and it seems to me that Spinoza is one of the few people who have both accepted the Cosmological Argument and seen clearly the logical consequences of it.

The relation of the Cosmological to the Ontological Argument may be stated as follows. The Ontological Argument specifies a certain property, viz. that of having all positive powers and qualities to the highest possible degree; and it professes to show that

there must be something which has *this* property. The Cosmological Argument does not claim to do anything so definite as this. It claims only to prove that there must be at least one set of characteristics such that there must be something which has them all. It does not profess to mention any specific set of characteristics and to show that there must be something that has *them*. If the Ontological Argument were valid, the conclusion of the Cosmological Argument would certainly be true. But the Cosmological Argument might be valid, and its conclusion might be true, even if the Ontological Argument were invalid and its conclusion false.

It only remains to consider what causes have made the Cosmological Argument seem valid to so many men of the highest intellectual power. It was accepted, e.g., by Aristotle, St. Thomas, Descartes, Spinoza, Leibniz, and Locke; and this certainly seems a sufficient guarantee of philosophical respectability. I think that there are two causes for this widespread delusion. One is the failure, which we have already noted in connexion with the Ontological Argument, to recognize the peculiarity of existential propositions and the fact that they are utterly unlike characterizing propositions in logical structure. So long as this difference remains unnoticed it does not seem absurd to talk of necessary existential propositions or facts. But, when once it is seen that all admittedly necessary propositions are of the form 'if this were the case, then that would be the case', and that no existential proposition is of that form, the temptation to think that there might be necessary existential propositions or facts is removed. A second cause is the very peculiar position which Euclidean geometry enjoyed for so many centuries. Here we have a science which seems to consist of propositions which necessarily follow from intrinsically necessary premisses, and yet to give us synthetic and categorical information about a certain important aspect of nature. This suggested the ideal of a completely rational knowledge of every aspect and every fact of nature; and it made this ideal appear to be intelligible even if the *de facto* limitations of the human intellect should forbid its being ever realized in detail. We know now that the necessity of Euclidean geometry, like all other necessity, is only conditional. The theorems follow necessarily from the axioms; but the axioms themselves are not intrinsically necessary, and therefore their necessary consequences are not themselves necessary propositions. So we are exempt from this temptation to which so many of our betters succumbed.

So far I have been dealing with what may fairly be called the more 'metaphysical' arguments for the existence of God. I pass now to those which may be called more 'empirical'. In accordance with the classification already given, the arguments which remain

to be considered are the Argument from Design, arguments which use specifically ethical but not specifically religious premisses, and those which use specifically religious premisses.

The Argument from Design has been criticized very fairly and thoroughly by two of the greatest European philosophers, Hume and Kant. I have nothing to add to their criticisms, and I have seen nothing in the writings of those who have tried to rehabilitate the argument which effectively rebuts their adverse verdict. I shall therefore set this argument aside. As regards arguments from ethical premisses, I have said what I have to say on the logical and epistemological issues in Chapter XI of my book *The Mind and its Place in Nature*. That chapter is, indeed, concerned primarily with ethical arguments for human survival, and not for the existence of God. But the principles are the same in either case, and so I do not propose to treat the subject again here. I shall therefore confine myself in this article to specifically religious experience and the argument for the existence of God which has been based on it.

This argument differs in the following important respect from the other two empirical types of argument. The Argument from Design and the arguments from ethical premisses start from facts which are common to every one. But some people seem to be almost wholly devoid of any specifically religious experience; and among those who have it the differences of kind and degree are enormous. Founders of religions and saints, e.g., often claim to have been in direct contact with God, to have seen and spoken with Him, and so on. An ordinary religious man would certainly not make any such claim, though he might say that he had had experiences which assured him of the existence and presence of God. So the first thing that we have to notice is that capacity for religious experience is in certain respects like an ear for music. There are a few people who are unable to recognize and distinguish the simplest tune. But they are in a minority, like the people who have absolutely no kind of religious experience. Most people have some slight appreciation of music. But the differences of degree in this respect are enormous, and those who have not much gift for music have to take the statements of accomplished musicians very largely on trust. Let us, then, compare tone-deaf persons to those who have no recognizable religious experience at all; the ordinary followers of a religion to men who have some taste for music but can neither appreciate the more difficult kinds nor compose; highly religious men and saints to persons with an exceptionally fine ear for music who may yet be unable to compose it; and the founders of religions to great musical composers, such as Bach and Beethoven.

This analogy is, of course, incomplete in certain important

respects. Religious experience raises three problems, which are different though closely interconnected. (i) What is the *psychological analysis* of religious experience? Does it contain factors which are present also in certain experiences which are not religious? Does it contain any factor which never occurs in any other kind of experience? If it contains no such factor, but is a blend of elements each of which can occur separately or in non-religious experiences, its psychological peculiarity must consist in the characteristic way in which these elements are blended in it. Can this peculiar structural feature of religious experience be indicated and described? (ii) What are the *genetic and causal conditions* of the existence of religious experience? Can we trace the origin and development of the disposition to have religious experiences (*a*) in the human race, and (*b*) in each individual? Granted that the disposition is present in nearly all individuals at the present time, can we discover and state the variable conditions which call it into activity on certain occasions and leave it in abeyance on others? (iii) Part of the content of religious experience is alleged knowledge or well-founded belief about the nature of reality, e.g., that we are dependent on a being who loves us and whom we ought to worship, that values are somehow conserved in spite of the chances and changes of the material world at the mercy of which they seem *prima facie* to be, and so on. Therefore there is a third problem. Granted that religious experience exists, that it has such-and-such a history and conditions, that it seems vitally important to those who have it, and that it produces all kinds of effects which would not otherwise happen, is it *veridical*? Are the claims to knowledge or well-founded belief about the nature of reality, which are an integral part of the experience, *true or probable*? Now, in the case of musical experience, there are analogies to the psychological problem and to the genetic or causal problem, but there is no analogy to the epistemological problem of validity. For, so far as I am aware, no part of the content of musical experience is alleged knowledge about the nature of reality; and therefore no question of its being veridical or delusive can arise.

Since both musical experience and religious experience certainly exist, any theory of the universe which was incompatible with their existence would be false, and any theory which failed to show the connexion between their existence and the other facts about reality would be inadequate. So far the two kinds of experience are in exactly the same position. But a theory which answers to the condition that it allows of the *existence* of religious experience and indicates the *connexion* between its existence and other facts about reality may leave the question as to its *validity* quite unanswered. Or, alternatively, it may throw grave doubt on its cognitive claims,

or else it may tend to support them. Suppose, e.g., that it could be shown that religious experience contains no elements which are not factors in other kinds of experience. Suppose further it could be shown that this particular combination of factors tends to originate and to be activated only under certain conditions which are known to be very commonly productive of false beliefs held with strong conviction. Then a satisfactory answer to the questions of psychological analysis and causal antecedents would have tended to answer the epistemological question of validity in the negative. On the other hand, it might be that the only theory which would satisfactorily account for the origin of the religious disposition and for the occurrence of actual religious experiences under certain conditions was a theory which allowed some of the cognitive claims made by religious experience to be true or probable. Thus the three problems, though entirely distinct from each other, may be very closely connected; and it is the existence of the third problem in connexion with religious experience which puts it, for the present purpose, in a different category from musical experience.

In spite of this essential difference the analogy is not to be despised, for it brings out at least one important point. If a man who had no ear for music were to give himself airs on that account, and were to talk *de haut en bas* about those who can appreciate music and think it highly important, we should regard him, not as an advanced thinker, but as a self-satisfied Philistine. And, even if he did not do this but only propounded theories about the nature and causation of musical experience, we might think it reasonable to feel very doubtful whether his theories would be adequate or correct. In the same way, when persons without religious experience regard themselves as being *on that ground* superior to those who have it, their attitude must be treated as merely silly and offensive. Similarly, any theories about religious experience constructed by persons who have little or none of their own should be regarded with grave suspicion. (For that reason it would be unwise to attach very much weight to anything that the present writer may say on this subject.)

On the other hand, we must remember that the possession of a great capacity for religious experience, like the possession of a great capacity for musical appreciation and composition, is no guarantee of high general intelligence. A man may be a saint or a magnificent musician and yet have very little common sense, very little power of accurate introspection or of seeing causal connexions, and scarcely any capacity for logical criticism. He may also be almost as ignorant about other aspects of reality as the non-musical or non-religious man is about musical or religious experience. If such a man starts to theorize about music or religion, his

theories may be quite as absurd, though in a different way, as those made by persons who are devoid of musical or religious experience. Fortunately it happens that some religious mystics of a high order have been extremely good at introspecting and describing their own experiences. And some highly religious persons have had very great critical and philosophical abilities. St. Teresa is an example of the first, and St. Thomas Aquinas of the second.

Now I think it must be admitted that, if we compare and contrast the statements made by religious mystics of various times, races, and religions, we find a common nucleus combined with very great differences of detail. Of course the interpretations which they have put on their experiences are much more varied than the experiences themselves. It is obvious that the interpretations will depend in a large measure on the traditional religious beliefs in which various mystics have been brought up. I think that such traditions probably act in two different ways.

(i) The tradition no doubt affects the theoretical interpretation of experiences which would have taken place even if the mystic had been brought up in a different tradition. A feeling of unity with the rest of the universe will be interpreted very differently by a Christian who has been brought up to believe in a personal God and by a Hindu mystic who has been trained in a quite different metaphysical tradition.

(ii) The traditional beliefs, on the other hand, probably determine many of the details of the experience itself. A Roman Catholic mystic may have visions of the Virgin and the saints, whilst a Protestant mystic pretty certainly will not.

Thus the relations between the experiences and the traditional beliefs are highly complex. Presumably the outlines of the belief are determined by the experience. Then the details of the belief are fixed for a certain place and period by the special peculiarities of the experiences had by the founder of a certain religion. These beliefs then become traditional in that religion. Thenceforth they in part determine the details of the experiences had by subsequent mystics of that religion, and still more do they determine the interpretations which these mystics will put upon their experiences. Therefore, when a set of religious beliefs has once been established, it no doubt tends to produce experiences which can plausibly be taken as evidence for it. If it is a tradition in a certain religion that one can communicate with saints, mystics of that religion will seem to see and to talk with saints in their mystical visions; and this fact will be taken as further evidence for the belief that one can communicate with saints.

Much the same double process of causation takes place in sense-perception. On the one hand, the beliefs and expectations which

we have at any moment largely determine what *interpretation* we shall put on a certain sensation which we should in any case have had then. On the other hand, our beliefs and expectations do to some extent determine and modify some of the sensible characteristics of the *sensa themselves*. When I am thinking only of diagrams a certain visual stimulus may produce a sensation of a sensibly flat sensum; but a precisely similar stimulus may produce a sensation of a sensibly solid sensum when I am thinking of solid objects.

Such explanations, however, plainly do not account for the first origin of religious beliefs, or for the features which are common to the religious experiences of persons of widely different times, races, and traditions.

Now, when we find that there are certain experiences which, though never very frequent in a high degree of intensity, have happened in a high degree among a few men at all times and places; and when we find that, in spite of differences in detail which we can explain, they involve certain fundamental conditions which are common and peculiar to them; two alternatives are open to us. (i) We may suppose that these men are in contact with an aspect of reality which is not revealed to ordinary persons in their everyday experience. And we may suppose that the characteristics which they agree in ascribing to reality on the basis of these experiences probably do belong to it. Or (ii) we may suppose that they are all subject to a delusion from which other men are free. In order to illustrate these alternatives it will be useful to consider three partly analogous cases, two of which are real and the third imaginary.

(a) Most of the detailed facts which biologists tell us about the minute structure and changes in cells can be perceived only by persons who have had a long training in the use of the microscope. In this case we believe that the agreement among trained microscopists really does correspond to facts which untrained persons cannot perceive. (b) Persons of all races who habitually drink alcohol to excess eventually have perceptual experiences in which they seem to themselves to see snakes or rats crawling about their rooms or beds. In this case we believe that this agreement among drunkards is merely a uniform hallucination. (c) Let us now imagine a race of beings who can walk about and touch things but cannot see. Suppose that eventually a few of them developed the power of sight. All that they might tell their still blind friends about colour would be wholly unintelligible to and unverifiable by the latter. But they would also be able to tell their blind friends a great deal about what the latter would feel if they were to walk in certain directions. These statements would be verified. This would

not, of course, *prove* to the blind ones that the unintelligible statements about colour correspond to certain aspects of the world which they cannot perceive. But it would show that the seeing persons had a source of additional information about matters which the blind ones could understand and test for themselves. It would not be unreasonable then for the blind ones to believe that probably the seeing ones are also able to perceive other aspects of reality which they are describing correctly when they make their unintelligible statements containing colour-names. The question then is whether it is reasonable to regard the agreement between the experiences of religious mystics as more like the agreement among trained microscopists about the minute structure of cells, or as more like the agreement among habitual drunkards about the infestation of their rooms by pink rats or snakes, or as more like the agreement about colours which the seeing men would express in their statements to the blind men.

— Why do we commonly believe that habitual excess of alcohol is a cause of a uniform delusion and not a source of additional information? The main reason is as follows. The things which drunkards claim to perceive are not fundamentally different in kind from the things that other people perceive. We have all seen rats and snakes, though the rats have generally been grey or brown and not pink. Moreover the drunkard claims that the rats and snakes which he sees are literally present in his room and on his bed, in the same sense in which his bed is in his room and his quilt is on his bed. Now we may fairly argue as follows. Since these are the sort of things which we could see if they were there, the fact that we cannot see them makes it highly probable that they are not there. Again, we know what kinds of perceptible effect would generally follow from the presence in a room of such things as rats or snakes. We should expect fox-terriers or mongooses to show traces of excitement, cheese to be nibbled, corn to disappear from bins, and so on. We find that no such effects are observed in the bedrooms of persons suffering from *delirium tremens*. It therefore seems reasonable to conclude that the agreement among drunkards is a sign, not of a revelation, but of a delusion.

Now the assertions in which religious mystics agree are not such that they conflict with what we can perceive with our senses. They are about the structure and organization of the world as a whole and about the relations of men to the rest of it. And they have so little in common with the facts of daily life that there is not much chance of direct collision. I think that there is only one important point on which there is conflict. Nearly all mystics seem to be agreed that time and change and unchanging duration are unreal or extremely superficial, whilst these seem to plain men to be the

most fundamental features of the world. But we must admit, on the one hand, that these temporal characteristics present very great philosophical difficulties and puzzles when we reflect upon them. On the other hand, we may well suppose that the mystic finds it impossible to state clearly in ordinary language what it is that he experiences about the facts which underlie the appearance of time and change and duration. Therefore it is not difficult to allow that what we experience as the temporal aspect of reality corresponds in some sense to certain facts, and yet that these facts appear to us in so distorted a form in our ordinary experience that a person who sees them more accurately and directly might refuse to apply temporal names to them.

Let us next consider why we feel fairly certain that the agreement among trained microscopists about the minute structure of cells expresses an objective fact, although we cannot get similar experiences. One reason is that we have learned enough, from simpler cases of visual perception, about the laws of optics to know that the arrangement of lenses in a microscope is such that it will reveal minute structure, which is otherwise invisible, and will not simply create optical delusions. Another reason is that we know of other cases in which trained persons can detect things which untrained people will overlook, and that in many cases the existence of these things can be verified by indirect methods. Probably most of us have experienced such results of training in our own lives.

Now religious experience is not in nearly such a strong position as this. We do not know much about the laws which govern its occurrence and determine its variations. No doubt there are certain standard methods of training and meditation which tend to produce mystical experiences. These have been elaborated to some extent by certain Western mystics and to a very much greater extent by Eastern Yogis. But I do not think that we can see here, as we can in the case of microscopes and the training which is required to make the best use of them, any conclusive reason why these methods should produce veridical rather than delusive experiences. Uniform methods of training and meditation would be likely to produce more or less similar experiences, whether these experiences were largely veridical or wholly delusive.

Is there any analogy between the facts about religious experience and the fable about the blind men some of whom gained the power of sight? It might be said that many ideals of conduct and ways of life, which we can all recognize now to be good and useful, have been introduced into human history by the founders of religions. These persons have made actual ethical discoveries which others can afterwards recognize to be true. It might be said that this is at least roughly analogous to the case of the seeing men telling the

still blind men of facts which the latter could and did verify for themselves. And it might be said that this makes it reasonable for us to attach some weight to what founders of religions tell us about things which we cannot understand or verify for ourselves; just as it would have been reasonable for the blind men to attach some weight to the unintelligible statements which the seeing men made to them about colours.

I think that this argument deserves a certain amount of respect, though I should find it hard to estimate how much weight to attach to it. I should be inclined to sum up as follows. When there is a nucleus of agreement between the experiences of men in different places, times, and traditions, and when they all tend to put much the same kind of interpretation on the cognitive content of these experiences, it is reasonable to ascribe this agreement to their all being in contact with a certain objective aspect of reality *unless* there be some positive reason to think otherwise. The practical postulate which we go upon everywhere else is to treat cognitive claims as veridical unless there be some positive reason to think them delusive. This, after all, is our only guarantee for believing that ordinary sense-perception is veridical. We cannot *prove* that what people agree in perceiving really exists independently of them; but we do always assume that ordinary waking sense-perception is veridical unless we can produce some positive ground for thinking that it is delusive in any given case. I think it would be inconsistent to treat the experiences of religious mystics on different principles. So far as they agree they should be provisionally accepted as veridical unless there be some positive ground for thinking that they are not. So the next question is whether there is any positive ground for holding that they are delusive.

There are two circumstances which have been commonly held to cast doubt on the cognitive claims of religious and mystical experience. (i) It is alleged that founders of religions and saints have nearly always had certain neuropathic symptoms or certain bodily weaknesses, and that these would be likely to produce delusions. Even if we accept the premisses, I do not think that this is a very strong argument. (a) It is equally true that many founders of religions and saints have exhibited great endurance and great power of organization and business capacity which would have made them extremely successful and competent in secular affairs. There are very few offices in the cabinet or in the highest branches of the civil service which St. Thomas Aquinas could not have held with conspicuous success. I do not, of course, regard this as a positive reason *for* accepting the metaphysical doctrines which saints and founders of religions have based on their experiences; but it is relevant as a *rebuttal* of the argument which we are considering.

(b) Probably very few people of extreme genius in science or art are perfectly normal mentally or physically, and some of them are very crazy and eccentric indeed. Therefore it would be rather surprising if persons of religious genius were completely normal, whether their experiences be veridical or delusive. (c) Suppose, for the sake of argument, that there is an aspect of the world which remains altogether outside the ken of ordinary persons in their daily life. Then it seems very likely that some degree of mental and physical abnormality would be a necessary condition for getting sufficiently loosened from the objects of ordinary sense-perception to come into cognitive contact with this aspect of reality. Therefore the fact that those persons who claim to have this peculiar kind of cognition generally exhibit certain mental and physical abnormalities is rather what might be anticipated if their claims were true. One might need to be slightly 'cracked' in order to have some peep-holes into the super-sensible world. (d) If mystical experience were veridical, it seems quite likely that it would *produce* abnormalities of behaviour in those who had it strongly. Let us suppose, for the sake of argument, that those who have religious experience are in frequent contact with an aspect of reality of which most men get only rare and faint glimpses. Then such persons are, as it were, living in two worlds, while the ordinary man is living in only one of them. Or, again, they might be compared to a man who has to conduct his life with one ordinary eye and another of a telescopic kind. Their behaviour may be appropriate to the aspect of reality which they alone perceive and think all-important; but, for that very reason, it may be inappropriate to those other aspects of reality which are all that most men perceive or judge to be important and on which all our social institutions and conventions are built.

(ii) A second reason which is commonly alleged for doubt about the claims of religious experience is the following. It is said that such experience always originates from and remains mixed with certain other factors, e.g., sexual emotion, which are such that experiences and beliefs that arise from them are very likely to be delusive. I think that there are a good many confusions on this point, and it will be worth while to begin by indicating some of them.

When people say that B 'originated from' A, they are liable to confuse at least three different kinds of connexion between A and B. (i) It might be that A is a necessary but insufficient condition of the existence of B. (ii) It might be that A is a necessary and sufficient condition of the existence of B. Or (iii) it might be that B simply *is* A in a more complex and disguised form. Now, when there is in fact evidence only for the first kind of connexion, people

are very liable to jump to the conclusion that there is the third kind of connexion. It may well be the case, e.g., that no one who was incapable of strong sexual desires and emotions could have anything worth calling religious experience. But it is plain that the possession of a strong capacity for sexual experience is not a *sufficient* condition of having religious experience; for we know that the former quite often exists in persons who show hardly any trace of the latter. But, even if it could be shown that a strong capacity for sexual desire and emotion is *both* necessary and sufficient to produce religious experience, it would not follow that the latter is just the former in disguise. In the first place, it is not at all easy to discover the exact meaning of this metaphorical phrase when it is applied to psychological topics. And, if we make use of physical analogies, we are not much helped. A mixture of oxygen and hydrogen in presence of a spark is necessary and sufficient to produce water accompanied by an explosion. But water accompanied by an explosion is not a mixture of oxygen and hydrogen and a spark 'in a disguised form', whatever that may mean.

Now I think that the present rather vaguely formulated objection to the validity of the claims of religious experience might be stated somewhat as follows. 'In the individual religious experience originates from, and always remains mixed with, sexual desires and emotions. The other generative factor of it is the religious tradition of the society in which he lives, the teachings of his parents, nurses, schoolmasters, etc. In the race religious experience originated from a mixture of false beliefs about nature and man, irrational fears, sexual and other impulses, and so on. Thus the religious tradition arose from beliefs which we now recognize to have been false and from emotions which we now recognize to have been irrelevant and misleading. It is now drilled into children by those who are in authority over them at a time of life when they are intellectually and emotionally at much the same stage as the primitive savages among whom it originated. It is, therefore, readily accepted, and it determines beliefs and emotional dispositions which persist long after the child has grown up and acquired more adequate knowledge of nature and of himself.'

Persons who use this argument might admit that it does not definitely *prove* that religious beliefs are false and groundless. False beliefs and irrational fears in our remote ancestors *might* conceivably be the origin of true beliefs and of an appropriate feeling of awe and reverence in ourselves. And, if sexual desires and emotions be an essential condition and constituent of religious experience, the experience *may* nevertheless be veridical in important respects. We might merely have to rewrite one of the beatitudes and say 'Blessed are the *impure* in heart, for they shall see God'.

But, although it is logically possible that such causes should produce such effects, it would be said that they are most unlikely to do so. They seem much more likely to produce false beliefs and misplaced emotions.

It is plain that this argument has considerable plausibility. But it is worth while to remember that modern science has almost as humble an ancestry as contemporary religion. If the primitive witch-smeller is the spiritual progenitor of the Archbishop of Canterbury, the primitive rain-maker is equally the spiritual progenitor of the Cavendish Professor of Physics. There has obviously been a gradual refinement and purification of religious beliefs and concepts in the course of history, just as there has been in the beliefs and concepts of science. Certain persons of religious genius, such as some of the Hebrew prophets and the founders of Christianity and of Buddhism, do seem to have introduced new ethico-religious concepts and beliefs which have won wide acceptance, just as certain men of scientific genius, such as Galileo, Newton, and Einstein, have done in the sphere of science. It seems somewhat arbitrary to count this process as a continual approximation to true knowledge of the material aspect of the world in the case of science, and to refuse to regard it as at all similar in the case of religion. Lastly, we must remember that all of us have accepted the current common-sense and scientific view of the material world on the authority of our parents, nurses, masters, and companions at a time when we had neither the power nor the inclination to criticize it. And most of us accept, without even understanding, the more recondite doctrines of contemporary physics simply on the authority of those whom we have been taught to regard as experts.

On the whole, then, I do not think that what we know of the conditions under which religious beliefs and emotions have arisen in the life of the individual and the race makes it reasonable to think that they are *especially* likely to be delusive or misdirected. At any rate any argument which starts from that basis and claims to reach such a conclusion will need to be very carefully handled if its destructive effects are to be confined within the range contemplated by its users. It is reasonable to think that the concepts and beliefs of even the most perfect religions known to us are extremely inadequate to the facts which they express; that they are highly confused and are mixed up with a great deal of positive error and sheer nonsense; and that, if the human race goes on and continues to have religious experiences and to reflect on them, they will be altered and improved almost out of recognition. But all this could be said, *mutatis mutandis*, of scientific concepts and theories. The claim of any particular religion or sect to have complete or final truth on these subjects seems to me to be too ridiculous to be worth

a moment's consideration. But the opposite extreme of holding that the whole religious experience of mankind is a gigantic system of pure delusion seems to me to be almost (though not quite) as far-fetched.

BISHOP BUTLER AS A THEOLOGIAN

IT appears to me that Butler's work as a moralist must be ranked extremely high. The writer with whom one naturally compares him in this respect is Kant, and I do not think that he suffers by comparison with the great German thinker. As a pure metaphysician Kant is, of course, unrivalled; but it seems to me that in ethics Butler has stated all that is valuable in Kant's teaching with much greater clearness and far less paradox and pedantry. Now the resemblance between these two great men goes further than this. Kant was interested in establishing a kind of moral theology, and Butler in the *Analogy* is busied with the same task. Here, I think, Butler has been definitely more successful than Kant, and I propose in this paper to give a sketch and some criticisms of his moral theology.

We must first clearly understand how the problem presented itself to Butler, and what is his general line of argument. Every argument presupposes a certain amount of common ground between the two parties; they must agree in admitting certain premisses, or there is no possibility of one ever convincing the other of anything. When A argues with B, he takes as a premiss something which B already grants, and he tries to prove to B by principles of reasoning which B accepts that certain consequences which B had not before admitted follow from this premiss. So the first question to ask is: 'With whom is Butler arguing in the *Analogy*, and how much does he assume as common ground between them and him?'

The answer is that he is not arguing with atheists, but with Deists. He assumes that his opponents accept the view that the world is due to an intelligent author. They might have reached the conclusion that the present order of nature had a First Cause by considering that an infinite series of causes, stretching back endlessly into the past, is impossible, i.e. by a form of the Cosmological Argument. And they might have reached the view that this Cause is an intelligent, active being from the traces of order and apparent design which we find in the present condition of nature; i.e. by the Argument from Design. Now this was a per-

fectly fair and reasonable assumption for Butler to make. In his time there were hardly any atheists of the least importance, and very few people holding views which we should call agnostic. Christians, and practically all non-Christians, were agreed that nature has a First Cause, and that this First Cause is intelligent. We may therefore take it that the arguments in the *Analogy* are directed against the Deists, and that the Deists would have granted the premiss which Butler assumes, viz. that nature is due to an intelligent author. A modern writer would need to start with a much less sweeping premiss. The Cosmological Argument has been completely exploded since Butler's time by Kant; and the Argument from Design, though not absolutely exploded, has been greatly damaged by the criticisms of Kant and Hume. Many people would add that it has been still further weakened by the theory of evolution by natural selection, which claims to account for the appearance of design in nature by the operation of purely random and unintelligent factors. But this is a much more debatable question, for the theory of evolution by natural selection has been so much blown upon in late years that it has ceased to be a very formidable weapon. Anyhow, we must remember that, even if Butler's arguments ought to have persuaded the Deists, it does not follow that they ought to persuade us; because the Deists were prepared to grant him more than we could be expected to do after the criticisms of Kant and Hume. So, to be fair to Butler, we must put ourselves back into the position of an eighteenth-century Deist.

The next point to consider is the differences between Butler and the Deists. The Deists admitted an intelligent author of nature, but they refused to go further. Butler enumerates what he considers to be the essential doctrines of natural religion, and he then adds the peculiar doctrines of Christianity, which he admits could be known, if at all, only by special revelation. Natural religion holds that there is a future life in which we shall be rewarded or punished for our actions in this life, and that the present is a state of probation for the future. This much some of the Deists might have admitted, but many of them would not. The further doctrines, characteristic of Christianity, which can be known only by revelation, are that the world was in a state of apostacy and moral ruin, and that this gave rise to a special interposition of Providence. This interposition was a scheme carried on through the mediation of a divine person for the recovery of the world, and it was attested by miracles. Lastly, Butler says, it must be admitted that this scheme contains much that is strange and unexpected; it has not been revealed to every one, nor with the strongest possible evidence to anyone. At most we can say that it has been revealed to such persons and with such a degree of evi-

dence as God thought fit. Now these characteristically Christian doctrines the Deists rejected, and one of their strongest reasons for doing so was these very peculiarities which Butler so honestly admits. The Deists said that there is much in Christianity which is unreasonable and unintelligible, and they added that God would surely have made this important revelation common to everyone and perfectly clear to all mankind. So they concluded that the characteristic doctrines of Christianity are probably not true, and that it is almost certain that the Christian scheme is not a revelation from God but an invention of men.

We are now clear about the points of agreement and the points of difference between Butler and the Deists. We must now see what it was that Butler wanted to prove, and how he proposed to prove it. He wanted to prove to the Deists that, if they granted that the order of nature is due to an intelligent being, they could not consistently stop at that conclusion. A careful study of the nature and situation of men must throw some light on the nature of God and his ways of working, since the Deists admitted that man and his environment were created by God. Butler thinks that this more careful study will make it highly probable that there is a future life, that we shall be rewarded and punished in it for what we have done here, and that the present life is a state of trial and of education for the future. Hence, he says, a consistent Deist ought to attach a very considerable weight to the doctrines of natural religion. This position is worked out in the first part of the *Analogy*, and it is with this that I shall mainly deal. In the second part, Butler goes on to consider specifically Christian doctrines and the objections which Deists made to them and to the kind of evidence which was offered for them. His argument here is that from what we know of God's workings in the part of his creation which is open to our inspection, it is quite likely that there would be a special revelation, and almost certain that, *if* there were one, it would contain much that would seem surprising and unreasonable to us. He then goes further into detail, and tries to show that the points to which the Deists specially objected in Christianity itself and in the evidence for it, as showing that it could not be due to God, have close analogues in the ordinary course of nature which is admitted to be due to God.

The reasoning is thus an argument by analogy; and, as such, it does not profess to establish more than a probability. But, in the first place, all the arguments which we use in the natural sciences also depend on analogies and give rise only to probabilities. Our only ground for thinking that the next piece of bread which we eat will nourish and not poison us is that it is like other things which we have eaten in the past which nourished and did

not poison us. Secondly, as Butler says, 'probability is the guide of life'. When we must act in one way or another, and nothing better than probability can be got, it is reasonable to act on the strongest available probability as if it were certainly true, no matter how small it may be in itself or how little it may exceed the probabilities of the other alternatives which are open to us. Suppose that a man were in a burning house and that he had the alternatives of escaping by the door or by the window. It might be that the likelihood of escaping by either means was extremely small. And it might be that there was only a very slightly better chance of escaping by the window than by the door. Nevertheless we should deem him mad if he did not use every effort to escape by the window under such circumstances. Similarly, it must be true either that vice will be punished in the next life or that it will not. We must act on one alternative or the other. And, if it be in the least more likely that it will be punished than it will not, we ought to act as if it certainly will be.

The gist of Butler's arguments about revealed religion is this. If nature and revelation be the work of one author, we should expect to find resemblances between them. The Deist admits that nature is due to an intelligent author, and yet he must grant that there is much in it which seems to us strange and unintelligible. It is therefore inconsistent in him to hold that the strange and unintelligible features in Christianity show that it cannot be due to God. On the contrary, if we find close analogies between the difficulties in the Christian scheme and the difficulties in the ordinary course of nature, this will be a ground for thinking that the Christian religion and the course of nature proceed from the same source. Butler is one of the very few philosophers and theologians who have consented to put their conclusions in terms of probability. It seems to me to be a great merit in him and greatly to strengthen his case. It is pretty certain that nothing more than probability can be reached on such subjects, and it is both wiser and more honest to admit this at the very beginning than to pretend to give knock-down proofs which are sure to be fallacious. On the other hand, it does make his arguments more difficult to test. We can see that Butler's reasoning does give *some* probability to his conclusions, but it is always extremely hard to say *how much*. In particular, it is often hard to tell whether the argument makes the conclusions more probable than not.

Before going into detail I will make some general remarks on the type of argument by which Butler tries to show that it is probable that nature and the Christian scheme are the works of a common author.

(1) The same author sometimes writes two books in very differ-

ent styles. There is very little likeness between *The Old Wives' Tale* and *The Grand Babylon Hotel*, though both are by Arnold Bennett. Hence, even if the Christian scheme had not been in the least analogous to the course of nature, they might have had a common source. Suppose, now, that there had been no difficulties in the Christian scheme. I can quite well imagine a theologian pointing out, as I have just done, that this is compatible with a common author of nature and of Christianity. And I can quite well imagine him going on to argue that the clearness of the Christian scheme, as compared with the perplexities of the order of nature, shows that here the Divine Architect is working in a medium best suited to his hand. Thus, whether Christianity had contained difficulties and perplexities or had been pellucidly intelligible, the argument from analogy would have been equally ready to deal with the situation. *Si dixeris 'aestuo', sudat.* I cannot help feeling that an argument which is so very accommodating must be regarded with a certain amount of suspicion.

(2) Books may be very much alike and yet written by different authors. Hence a likeness between Christianity and the course of nature is consistent with their having different sources. And if a large part of the analogy consists in there being obscurities and difficulties in the books, it becomes a very weak argument for identity of authorship. Hegel's *Logic*, Browning's *Sordello*, and Henry James's *Golden Bowl* all resemble each other in being extremely obscure in parts, but they all have different authors. If somebody said to me, 'This book is obscure, therefore it cannot be by Henry James'; it would be a sufficient answer to say, 'You admit that Henry James wrote the *Golden Bowl*, and there are certainly very obscure passages in that'. But, if I were to go on to say, 'The very fact that this book is obscure makes it likely that Henry James wrote it,' I should be using an extremely weak argument. I think, therefore, that we may fairly say that only positive analogies which go into considerable detail can be used to render common authorship probable. Analogies on negative points, such as difficulty and obscurity, will suffice to refute a man who says that common authorship is impossible, but they will not appreciably add to the probability of common authorship. Now, Butler does try to carry the positive analogies between religion and the order of nature into considerable detail, and this is the strength of his book. And he does in the main use the analogies in negative point only to refute objections to common authorship, and not to make it positively probable. But I think that he does sometimes fall into the mistake which I have been pointing out.

(3) Suppose we did find very close analogies between two books, at least three explanations would be open to us. One would

be that they were written by the same man. Another would be that there were two authors, and that one of them had formed his style by reading the works of the other. A third would be that there were two authors who had been brought up in the same circle and had been greatly influenced by it and perhaps by each other. Now Butler considers only the first alternative. But the Deists might certainly have taken the second. They might have said, 'We admit that God made man in his own image. Therefore men's minds will work on somewhat the same lines as God's. And, again, the only materials which men have to work with are created by God. It is therefore not unlikely that any man-made fiction will bear some likeness to the order of nature which was made directly by God.' So the analogy between the order of nature and the scheme of Christianity would be compatible with the view that God made nature and man, and that man invented Christianity. Man would then be like an inferior writer who had lived all his life in the house of a great author or had been that author's amanuensis and had read nothing but his works. The third alternative is one which the Deists would not have admitted, but which is theoretically possible. There might be a society of gods who lived together and influenced each other. One of these might have created men and the rest of nature. Others of them might have revealed various schemes of religion to men. Under these circumstances we should expect to find certain analogies between all these schemes and the course of nature. And this is what we do find. As the analogy could thus be explained in several alternative ways beside the one which Butler mentions, the probability of the particular explanation to which Butler confines himself is not rendered so great by the analogy as he supposed.

So much by way of general criticism. We will now consider the special analogies by which Butler thought that a Deist ought to be persuaded to ascribe a high probability to the doctrines of natural religion as distinct from the specific doctrines of Christianity. He starts by considering the arguments for a future life, which he rightly holds to be an absolutely essential doctrine of religion. His argument may be put as follows. If something exists now we do not need any special reason to hold that it will go on existing. The line which we always take is that anything which exists now will go on existing unless there be some positive cause to stop it. Now it is commonly thought that the dissolution of the body is a positive cause which is likely to put an end to the mind. Therefore, if we could show that there is no reason to believe that the dissolution of the body will put an end to the mind, we may assume that the mind will survive the death of the body. He then tries to show that there *is* no reason to expect that the break up of the body will stop

the mind. The argument therefore raises two questions: (1) Is it true that the mere fact that a thing *has* existed is a sufficient reason for expecting that it *will* exist unless there be something positive to stop it? And (2) is it true that there is no reason to think that the death of the body is likely to put an end to the mind?

(1) Butler's first premiss is no doubt plausible. If we leave a chair in our rooms we do expect to find it there when we come back. We do not want any explanation of its still being there; we should only want an explanation if we found that it had vanished. It is, then, true of material objects that we expect them to go on existing unless there be some positive cause to destroy them. The question is: Is this a general rule which can be applied straight-away to minds, or is it peculiar to material objects? The answer seems to me to be that it is not a general rule. If there were a noise going on or a light burning when we went away we should not be the least surprised to find that it had stopped when we came back. We expect chairs and tables to go on existing if no special cause arises to destroy them, because we have so constantly found this to be true by experience. We do not expect this of lights and noises, because we have so often seen lights go out from mere lack of oil or found that noises cease from the mere stoppage of some movement. In fact there is no general rule on the subject; some things go on unless there be some positive cause to stop them, others stop unless there be some positive cause to keep them going; and we simply have to learn from experience which rule holds for each particular class of objects.

(2) Butler's argument to prove that there is no reason to think that the destruction of the body would put an end to the mind is based partly on facts about human beings and partly on analogies with animal life.

(a) He points out that the matter of our bodies is constantly changing without detriment to our minds. He shows that limbs, eyes, etc., may be lost without interfering with our powers of thinking and reasoning, and that people who are dying of long and deep-seated diseases may be perfectly conscious and mentally active up to the end. All this is quite true; but it only shows that *many* parts of our bodies can be dispensed with *separately* without detriment to our minds. It is not safe to conclude from such facts either (α) that there is *no* part of our bodies which is indispensable to the existence of our minds, or (β) that all parts of our bodies could be destroyed *together* without detriment to our minds. Each of our meals can be dispensed with separately, but it would be rash to conclude that all of them could be dispensed with together. And, again, it does seem that, whilst our eyes, ears, noses, etc., are merely instruments which the mind uses, there is one part of

our body which is not a mere instrument of the mind, but is an essential condition of its existence. This is, of course, the brain. Butler is quite right in saying that a man can have visual experiences in dreams after he has lost his eyes, and therefore that the eye is a mere instrument. But we have no reason to think that he could have visual experiences if a certain part of his brain were destroyed. The plain fact is that, so far as we know, our characters and our mental powers vary in life with the state of our brains, and that after our brains are destroyed all signs of mental action cease. This certainly suggests very strongly, though it does not conclusively prove, that our minds depend for their existence and functioning on the substantial integrity of our brains. The only possible ground for holding any other view would be phenomena which point to the posthumous action of minds. I think that there are abnormal phenomena, dealt with by the Society for Psychological Research, which in some measure suggest this view. But, apart from such phenomena, I cannot see the slightest ground for thinking that the mind survives the destruction of the brain; and of course such phenomena are extremely ambiguous, and may be susceptible of many other explanations.

(*b*) The analogies from animals by which Butler tries to support his argument are drawn from the transformations of insect life, such as the change of caterpillars into butterflies. Of course the old illustration which St. Paul uses of the seed dying and rising again with a new body as wheat is of the same nature. Now I am not inclined to despise such analogies. If we had positive reason to think that the mind does survive the death of the visible body, I think that such analogies would really be helpful as suggesting the way in which this may happen. But it does not seem to me that, in themselves, they add any probability to the view that the mind survives bodily death. There are just two remarks which I must make about these analogies.

(*a*) They suggest that, if we survive, we do not do so as disembodied spirits, but with some kind of body. This body might of course not be perceptible to men's senses under normal conditions; and it might well be that even our present body is more than meets the eye. There are certain abnormal phenomena, for which tolerably decent evidence is slowly accumulating, which seem to suggest such a view. I allude of course to alleged cases of materialization and telekinesis. I understand that the orthodox Christian doctrine is that we have bodies of some kind after death; and it seems to me that, if we survive at all, it is probable that the orthodox doctrine is here right.

(*β*) If we consider the analogy with caterpillars and seeds more carefully, I think it suggests something which Butler would not

have welcomed. Most seeds do not grow into plants and most caterpillars never become butterflies. If we are going to use this analogy at all, we must use it consistently. And it seems to suggest that, if *any* men survive and put on a glorified body, probably only a small minority do so. There may well be accidents in the spiritual world as well as in the world of visible nature. And I think it may fairly be argued that, to all appearance, there are many men who are far less worth preserving than some cats and dogs and horses.

I have spent some time over Butler's arguments for survival, because all the rest of the book presupposes this doctrine. I have tried to show that analogies from the ordinary course of nature do not render survival probable, though they do suggest the *modus operandi* of survival, if it should be a fact. But I do think that, when certain abnormal phenomena are taken into account, survival with a different kind of body acquires a small but appreciable probability. The rarity of the phenomena, the difficulty of avoiding fraud, and the possibility of alternative explanations, prevent me from putting this probability at all high. But I do think that it is high enough to deserve serious consideration in practice. And this, after all, is all that Butler asks us to accept.

Assuming that there is a future life, Butler proceeds to argue by analogy that it is probable that our position in it will depend largely on our actions here and now. It is admitted by the Deists that the present world is made by God. Now in the present life happiness and misery are, to a large extent, in our own hands. We cannot be made happy without our own co-operation, and we always have it in our power to make ourselves wretched in this life by vice or folly. In particular, mistakes in early life often bring on us the greatest misery in the form of poverty and disease in our later years. And we often find that these consequences follow after a long interval of wealth and health. Moreover they may attack a man who has forgotten or sincerely repented his past mistakes and faults. It is evident, then, that in this life our happiness and misery lie largely in our own hands; that the punishment of early vice and folly may be long delayed, and therefore that apparent immunity is no guarantee against final wretchedness; and that sincere repentance may be quite unavailing. If God made the present order of nature, these are the principles on which he governs it. It is reasonable to suppose that he governs the future life on the same general principles. If so, we may anticipate that folly and wickedness in this life will be followed by misery in the next, just as folly and wickedness in youth tend to be followed by poverty and disease in old age. And since health and prosperity over a long period are no guarantee against ruin at the end of life, so the sinner who lives and dies in prosperity has no ground for thinking that God has for-

gotten him and will not punish him at last. We need not suppose, Butler says, that God interferes in any irregular or miraculous way to punish faults in this world by misery in the next. Just as poverty and disease in old age follow by general laws from early folly and wickedness, so misery in the next life may follow by natural laws from folly and wickedness in this one.

In the main Butler's argument seems to me to be perfectly sound, but there are certain points which need special notice. If we consider the miseries which men suffer in this life we shall notice that, beside those which may fairly be regarded as punishments of their own vices, there are also the following kinds: (1) There is some misery which has no discoverable connexion with vice or folly at all. It is just pure unavoidable misfortune. (2) Misery which is connected with human vice and folly seems often to fall more heavily on quite innocent persons (such as a man's wife and children) than on the actual agent. (3) In this world it would seem that ignorance is punished more heavily than anything else. A careful and scientific debauchee may go on sinning to a green old age with very little damage to his health or pocket. An ignorant youth may do himself great and lasting harm by a few acts of folly which may not indicate any great moral depravity. Of course we must admit that the careful sinner at least exhibits the virtues of prudence and intelligence, and that these are valuable qualities. Again, ignorance is a great evil, even when it is not a moral fault. We can well imagine that God would wish to give men the strongest possible motives for not remaining ignorant; and in view of the intellectual laziness of mankind this can only be done by punishing ignorance with frightful severity. In the next life the careful sinner may still be punished, and the innocent youth may have learnt by bitter experience the propriety of looking before he leaps. Still, when all these qualifications are made, I think it must be admitted that, although in this life there is a rough coincidence between vice and misery, yet misery is not distributed with any near approach to what we should consider justice. And, if analogy with this life be our only means of judging God's probable principles of action in the next, we have no right to expect a nearer approximation to justice in the future than we find in the present.

Butler considers such questions in rather greater detail when he asks how far we can regard God as a *moral* governor, i.e. as one who favours virtue and disapproves of vice. He points out that we are moral beings, and that the societies which men have formed and the laws which these societies have made are natural products. It is therefore not true to say that nature is indifferent to right and wrong, unless you put man in an unreal opposition to the rest of

nature. It is true that nature, apart from man, seems morally indifferent; but, as Butler would put it, God created men as well as the rest of nature, and his character must be learned by studying the whole of his creation and not simply the non-human part of it. We could put the same point to-day by saying that, whatever else man may be, he is certainly a product of natural processes; and that in judging nature we must remember that it has produced people who approve of virtue, disapprove of vice, and are capable in some degree of guiding their actions by their judgments of approval and disapproval.

Now, Butler says, it is not true even in this world that vice as such has any tendency to make for happiness or prosperity. And it is true that virtue (which of course includes prudence) has this tendency. Suppose an equal number of virtuous and of vicious persons, and suppose that the virtuous people have time to recognize each other and to join together; it is practically certain that in the long run they would completely control the rest. Justice, truthfulness, prudence, kindness, and temperance do tend to bind their possessors together and to make them into a strong society. And the opposite characteristics have no such tendency. This seems to me to be perfectly true. Butler draws a very illuminating comparison between virtue and reason in this respect. No one can doubt that rational beings are, as such, stronger than irrational ones. Of course, if the rational beings were very few, if they could not recognize each other, and if they were surrounded by a vast majority of irrational beings of much greater bodily strength, they might be killed off. But, given anything like equality of numbers and anything like a chance to co-operate, it is certain that they would in the end control all the irrational beings; as man has gradually controlled all other animals, though so much weaker in body than many of them.

The same is true of virtue and vice. In particular cases the vicious may so outnumber the virtuous, and the latter may be so isolated and thus unable to recognize each other or to co-operate, that they will be wiped out. Again, at any given time a few vicious men may make themselves more prosperous than any virtuous man, by trading on the follies of those whose virtues keep an organized society in being. But I think that we can safely say that whenever vice flourishes it does so by being parasitic on virtue. The success of a swindling company promoter presupposes a society in which honesty is so common that a large number of people will be ready to believe his prospectuses. And the analogy can be carried further. Perfectly healthy plants are rarely attacked by parasites, and a perfectly virtuous society would lack that taint of cupidity and muddle-headedness which gives the swindler his chance.

Butler fully admits how greatly the intrinsic tendency of virtue has been hampered in the course of history, through the imperfect virtue of all actual men and the difficulty which virtuous people have in recognizing and co-operating with each other. But exactly the same may be said of reason. There must have been long ages throughout which it was touch and go whether men would survive at all, and when the suggestion that they would some day control all the other inhabitants of the earth would have seemed ridiculous. If, then, God made the world and its inhabitants, we may conclude with reasonable probability that he governs the future life on the same principles. And, since we see virtue here as a principle prevailing slowly and with difficulty against obstacles, we may reasonably suppose that in the indefinite duration of the future life it will gradually come to exercise its full natural strength. The virtuous man may therefore feel pretty confident that he is co-operating with God and that he is on the winning side, though that side may not win without a hard struggle carried far beyond the narrow bounds of earthly life.

There is one point in this argument of Butler's which needs further elucidation. I have no doubt that he is right in saying that virtue and reason have, on the whole, been favoured in the past; and that it is plausible to suppose that, in spite of many setbacks, they will prevail still more in the future. But the question arises: What future? Might not this argument simply suggest that future generations on earth would be likely in the long run to be increasingly virtuous and rational? Butler unhesitatingly applies this argument to the future of the individual in the next world. What would he say to a person who accepted the argument, but applied it to the future of the race in this world? As Butler does not deal with this question, I can only try to answer it for him. Whether he would accept my answer I do not know. In the first place, I should say that there was no inconsistency in applying the argument both to the future life of the individual, assuming that he has one, and to the future life of the race on earth. If God favours virtue at all he may let its natural tendency work out in both directions. But, secondly, I should say that the whole notion of indefinite future progress on earth by the race is absurd. It is as certain as anything well can be that, after a time, conditions on earth will become less and less favourable to humanity, and that finally the race will die out in the cold of a more than arctic winter, unless some cosmic disaster should destroy it suddenly before that time. No doubt, at every stage of this decline, temperance, prudence, justice, truthfulness, and kindness will be more favourable to racial survival than their opposites. But in the end they will not secure survival for the race, and with its death they will die out

on earth. If therefore the past history of humanity really does give us reason to think that God favours virtue and means to secure its fuller and fuller triumph, it is quite useless to expect this to be realized in the future life of mankind on earth. It will either be secured in another and wholly different order of being or it will not be secured at all; and the sooner we recognize this fact and cease to delude ourselves with talk of 'a good time coming' the better it will be for everybody.

Butler next tries to see how far the situation in which we are placed in this world can be reconciled with the view that the Creator is a benevolent being who governs the world with justice. I have already pointed out certain respects in which the appearances are against this view. Butler readily admits that it might seem that mankind is placed in a needlessly dangerous situation, and that many people go hopelessly astray through their own unavoidable ignorance or the wickedness of others. He begins by pointing out that it is not of the least use to suggest that God could easily have managed things better; we do not know what his full intentions are, and we have no idea what the full consequences of a different course of action by God would have been. If he had acted otherwise we might have been out of the frying-pan into the fire. Here Butler is obviously right. Assuming that there is a God, it is as absurd for us to criticize his actions as it is for an ordinary newspaper reader to criticize the actions of a commander-in-chief in a great campaign. We have neither the relevant information nor the necessary faculties for passing any sensible judgment on such matters. But what we can do, according to Butler, is this. We can look carefully at the actual situation in which God has placed man, and see whether we cannot detect the reasons which may have guided God. A man who cannot profitably criticize a general, or suggest an alternative plan of campaign to him, may be able afterwards with a map to guess why he made some of the moves which he did make.

Now, if we look at the actual situation of man, it seems likely that it is meant as a training-ground for his future life. And, if we look at the matter in this light, we shall find that a good deal of the paradox and apparent injustice of man's situation vanishes. We find that people are not born into the world with complete knowledge or fully developed faculties. They have to go through a long course of training and experience before they are ready to live in the world on their own resources. Suppose, then, that we compare infancy and maturity with this world and the next. It may be that, just as we need a long training to be ready to live fully in this world, so we need a long training to make us ready for the next. And it may be that in the whole of this life we are simply

exercising the faculties which we shall need in the future life. Now, we do find that all our active powers are developed and strengthened by practice, and this is as true of our moral activities as of our bodily and intellectual ones. If a man is to act rightly he must first be properly trained, and then he must be exposed to difficulties and temptations. In proportion as he struggles with these and overcomes them, his conscience is strengthened and he forms habits of right action. It is quite impossible for us to see how the same result could be brought about in any other way.

Now, Butler says, it will always be necessary for us to be able to resist temptation, because we shall always be liable to it from our very nature. Man consists of a set of particular propensities under the control of the more general principles of self-love and benevolence, which are in turn subject to the supreme principle of conscience. Presumably he will be built on the same general plan in the next world. Now, such a being is always liable to go wrong, even if he starts with all these principles and propensities in exactly the right relative strengths. For circumstances are practically sure to arise sooner or later in which there are special opportunities for gratifying some of these impulses and special difficulties in gratifying others. Thus there will be a tendency for the former to grow at the expense of the latter. Hence a being like man cannot keep right, even if he start right, unless the principle of conscience be strengthened and formed into a habit. And the only way in which this seems to be possible is by its constant exercise in the face of difficulties and temptations. It may be that anyone who really used his opportunities in this world would so have strengthened his conscience and so have impressed virtuous habits on himself that in the next life it would be practically impossible for him to go wrong. And it is reasonable to suppose that this world is an indispensable training-ground in which we form our characters for the next life.

Butler freely admits that most people do not use the dangers and temptations of this world for any such purpose, and he does not pretend that his theory will account for all the apparently needless evil in the world. He says that the waste of moral agents through their own actions is more distressing but not more startling than the waste of seeds and of young animals. Yet the latter is a fact of nature, and must therefore, on the Deistic hypothesis, be somehow consistent with the wisdom and benevolence of God.

I think that there is no doubt that, if a future life be admitted, the view that this world is a training-ground for souls becomes distinctly plausible. And I think that there is no doubt that such a view will justify a good deal, though by no means all, of the apparent injustice in this world. It is easy to condemn the creation

if it be regarded simply as an institution for providing men with 'a good time'; from that point of view it is quite obviously a complete failure. Man is clearly not adapted for enjoying, nor nature for providing, any very intense or lasting happiness. But it may well be that God does not think that happiness, as such, is particularly valuable or important; and that he thinks the existence of beings who are intelligent, self-controlled, kindly, and just is much better worth aiming at. And it may well be that even he cannot produce such people except by exposing every one to dangers and temptations which will certainly be fatal to many. There is no reason to suppose that God can make omelettes without breaking eggs, any more than we can. The worst that we can say is that it looks to us, who are largely ignorant of the conditions, as if an immense number of eggs were broken in proportion to the output of omelettes.

Butler next raises the question whether any of the arguments which have been used or the conclusions which have been reached would be invalidated if it could be shown that everything that exists and every event that happens does so 'by necessity'. This is an extremely brilliant chapter which remorselessly exposes many common fallacies. Butler puts his argument in the following way: Suppose it to be true that everything that exists and happens does so of necessity, this must be compatible with all the facts that we can actually observe around us. Now, it is perfectly certain that the world contains many things, such as books, bridges, watches, etc., which would not have existed unless human beings had made plans and had put them into action. If the doctrine of necessity be inconsistent with such facts, it must be false. But if it be consistent with them, it can have nothing to say against the Argument from Design. If necessity be compatible with the fact that a watch or a house needs an intelligent designer, it cannot possibly affect the argument that the order and teleology in nature require an intelligent author to explain them. All that the doctrine of necessity could tell us would be that God acted from necessity and not from free will in designing and creating the world. Thus the fundamental assumption which Butler and the Deists share in common is logically unaffected by the doctrine of necessity.

The question might still be raised whether the doctrine of necessity is consistent with the view that we shall be rewarded or punished in the next world for our actions in this. To this Butler answers that, whether our actions be free or completely determined, we are as a matter of fact praised, blamed, punished, and rewarded for them in this world by our fellow-men. If we are necessitated to commit murder it is equally true that our fellow-men are necessitated to disapprove of murder and to show their

disapproval practically by hanging us. Necessity, if true at all, is therefore compatible with the existence of beings who approve and disapprove of our actions and reward or punish us for them. The doctrine of necessity is therefore perfectly consistent with the expectation that God will reward and punish us in the next world. If a determinist thought that he could commit murder with impunity in this life, because all actions are rigidly determined, he would very soon find that he was mistaken. And he is just as likely to be mistaken if he thinks that, because all his actions are rigidly determined, they will not be punished in the next life. If he finds himself in Hell it will be a poor consolation to know that God could not help sending him there.

Lastly, we might raise the question: Granted that determinism is compatible with the view that the world was created by an intelligent being and that it is governed by this being through rewards and punishments, is it consistent with the *character* which religion ascribes to this being? Would it be compatible with the justice or the benevolence of God to punish us for acts which are completely determined? To this Butler answers by taking a concrete example from human life. We are inclined to say that if a murderer's action be completely determined, no blame attaches to him and therefore it is unjust to punish him. Now, although it seems plausible to talk in this way, it is certainly inconsistent. If determinism be true, the judge is as completely determined in condemning the prisoner as the prisoner was in committing the murder. Either the fact that actions are completely determined exonerates both parties or it is irrelevant to the question of right and wrong. If it exonerates the prisoner for his murder it equally exonerates the judge for his sentence. If it does not exonerate the prisoner for his murder we cannot say that it makes the judge unjust in punishing the murderer. This argument is I think, perfectly conclusive. It shows that the question of determinism or free-will is wholly irrelevant to the question of the justice of punishment. It also shows how extremely difficult it is to be a consistent determinist. In the example the determinist was tacitly assuming that the judge's actions were free whilst the prisoner's were completely determined. Thus I think that Butler has fully proved his point that his arguments and conclusions are wholly unaffected by any form of determinism which is not flagrantly inconsistent with observable facts.

Butler ends the first part of his *Analogy* by arguing that it is likely that what we see of God's moral government is only a very small fragment of a much bigger and closely interwoven scheme, which we cannot grasp as a whole. It is obviously true that external nature forms a scheme of this kind. We fully admit that we

understand only a very small part of nature and that we have unravelled only a few of its laws. But we do not doubt for a moment that nature as a whole forms one vast system in which everything is connected, directly or indirectly, with everything else. If we find some natural phenomenon, which we do not understand and which we cannot connect with anything else in nature by known laws, we never suppose for a moment that it really is isolated or that it really is irregular. We always assume that, if we knew more, we should be able to place it in the whole system of nature and see its connections with the rest. It is therefore reasonable to suppose that God's actions in the moral world are not isolated, but form parts of a wider scheme which, as a whole, is beyond our ken. Now, just as this assumption about nature leads us to see that events may well be regular and law-abiding although they look irregular, so the parallel assumption about the moral world leads us to see that what looks like injustice on God's part may not really be so. If we could see the whole bearing of his apparently arbitrary actions, we might recognize that they are perfectly justifiable. In the natural world we often find that trivial and undesirable events bring about important and valuable consequences, and that these consequences could not have been got in any other way. This may be true in the moral world too. It may be simply impossible for virtue to be developed without temptation and suffering; and to say that God might have produced the one without the other may be like saying that he could have made a closed rectilinear figure with only two sides.

Again, it looks as if God governed the moral world by general laws, as he certainly governs the natural world. Now, general laws necessarily involve hardships in particular cases. But we can see many advantages which come of general laws, and we cannot be sure that these do not more than balance the disadvantages. If we say that God might have dealt with the hard cases by special miracles, we must remember that one obvious disadvantage would have arisen, viz. general uncertainty leading to idleness and carelessness. And it is certain that the effects of such miraculous interventions could not be confined to the particular evils which they were meant to cope with. The further and remoter consequences of such interventions might be so bad as to make them highly undesirable.

In conclusion I must say that it does seem to me that Butler really has established a case for the characteristic doctrines of natural religion, on the assumptions with which he starts. The two chief points of criticism are (1) that he accepts without question the traditional arguments for the view that the world has been created by an intelligent being, and (2) that his arguments for

survival of bodily death are weak. We might end by raising the question: How far do these two factors affect his conclusions? As regards the first, I think that his arguments and conclusions could fairly easily be restated in a non-theistic form. Suppose we simply say that the world as known to us has developed in complexity according to natural laws from earlier and simpler states, and that it has never had a beginning in time. All that Butler has pointed out about the existing order of nature remains true. Instead of saying that this throws light on the character of the author of nature, we have now to say that it throws light on the character of the universe as a developing process in time. And, instead of arguing from the probable character of the author of nature to our probable fate in the next life, we could argue straightaway from the tendencies of the world-process, as revealed in the part open to our inspection, to the probable character of those parts which have not yet been revealed.

The other weakness is a more serious one. If it be not reasonably probable that some at least of us will survive the death of our bodies, most of the rest of Butler's conclusions must go by the board. But this is just the point where it seems to me that a little further evidence has accumulated since Butler's time. At present it is very conflicting and very difficult to interpret; but it does at least faintly suggest the possibility of survival, whilst Butler's arguments taken by themselves do not give any appreciable probability to that doctrine.

A very great merit of Butler's arguments is that they are hardly, if at all, affected by the progress of natural science since his time. The facts about the world on which he bases his arguments remain facts, and no scientific discoveries are in the least likely to explode them or to explain them away.

Into Butler's arguments from analogy in favour of the special doctrines of Christianity, and in favour of the view that a revelation might reasonably have been anticipated and that it might be expected to contain difficulties and paradoxes, I do not propose to enter. Butler's arguments in the second part of the *Analogy* are often ingenious and always candid. But it is obvious that the more specialized the conclusions which he is trying to establish, the weaker that argument from analogy must become. As I have said, I think that the argument from analogy does lend some support to the doctrines of natural religion; but under the weight of specifically Christian doctrines it seems to me to show obvious signs of buckling.

RELATIONS OF SCIENCE AND RELIGION

FIFTY or sixty years ago anyone fluttering the pages of one of the many magazines which then catered for the cultivated and intelligent English reader would have been fairly certain to come upon an article bearing somewhat the same title as that of the present paper. The author would probably be an eminent scientist, such as Huxley or Clifford; a distinguished scholar, such as Frederic Harrison or Edmund Gurney; or a politician of cabinet rank, such as Gladstone or Morley. Whichever side he might take, he would write with the moral fervour of which Englishmen at that time had an inexhaustible supply. Nowadays the so-called 'conflict between Religion and Science', which was then appetizingly hot from the oven, has acquired something of the repulsiveness of half-cold mutton in half-congealed gravy. There seems to be a widespread opinion that Sir Arthur Eddington and Sir James Jeans, with some highly technical and not readily intelligible assistance from Professor Whitehead, have enabled the lion to lie down with the lamb. Well, I have no wish to pipe a discordant note in this scene of Messianic harmony. But I cannot help reflecting that psychology, anthropology, and psychical research have made considerable advances as well as mathematical physics; and that they seem *prima facie* much more likely to be relevant to religion. Even the ordinary common sense of the lawyer and the historian may still have something useful to say on such topics. So, at the risk of being thought a profane disturber of the peace, I propose to raise once more the old questions, and to ask what bearing, if any, recent scientific developments have on the validity of religious beliefs.

In considering such beliefs I shall devote my attention mainly to Christianity, since this is the religion in which most of us were brought up, and is the only one with which most of us have any first-hand acquaintance. I fear that there may be some degree of unfairness in this. For there are certain peculiarities about Christianity which make it vulnerable to attacks that might be harmless to some of the other great religions, such as Buddhism, or to religion in general. I will therefore begin by mentioning the most striking of these peculiarities.

(1) The first and most important peculiarity of Christianity is that it is, to an unique degree, a doctrine about its own Founder. Some religions, e.g. Brahminism, do not claim to have any definite historical founder. Others, such as Buddhism in its original form and Confucianism, which trace their origin to a certain ostensibly historical person, claim no more for their founder than that he was an exceptionally wise and good man who first discovered and promulgated certain important moral and philosophical truths, and illustrated his doctrine by the special sanctity of his life. Others, again, such as Judaism and Mahometanism, would claim more than this for their founders. Moses and Mahomet are supposed to have been the recipients of special revelations from God. This, it is alleged, enabled them to know facts about God's nature and His commands to humanity which no amount of reflexion on the data of ordinary experience would have disclosed to even the wisest and the best of men. But Judaism and Mahometanism would claim no more than this for Moses and for Mahomet respectively. These prophets are regarded as ordinary men who were extraordinarily favoured by God, not as supernatural beings occupying a uniquely important position in the universe. Now it is an essential part of Christian doctrine that, whilst it claims for the man Jesus all that Judaism claims for Moses or Mahometanism for Mahomet, it also claims something else which is different in kind and not in degree.

I have not been so fortunate as to meet with any account of the details of this doctrine about Jesus which I could fully understand. But, for the present purpose, a rough outline will be enough; and it may be given in the following propositions. (i) There is a single eternal and supernatural existent on which everything else that exists depends one-sidedly both for its origin and its continuance. This may be called 'the Godhead'. (ii) Within the unity of the Godhead there are three and only three most intimately inter-related 'factors' or 'moments', each of which can properly be called God. (iii) A certain two of these factors in the Godhead stand in a peculiar kind of asymmetrical dyadic relationship, which is least imperfectly adumbrated by the analogy of fatherhood and sonship. In respect of this, one of them is called 'God the Father' and the other is called 'God the Son'. The third factor in the Godhead is related to *both* the others by another kind of asymmetrical dyadic relation. This is denoted by the phrase 'proceeding from', and the factor in question is called 'God the Holy Ghost'. (iv) There is some uniquely intimate relation between that eternal factor in the Godhead called 'God the Son' and a certain man Jesus who was born at the village of Bethlehem during the reign of Augustus. This relation is such that it is appropriate to say of Jesus (and of no other man) that He was divine as well as human,

and to say of God the Son (and of no other factor in the Godhead) that He is eternally human as well as divine. (I must confess that I can think of no interpretation of these statements which would enable me to attach a meaning to them.) (v) The birth of Jesus was miraculous, in so far as He had no human father. His mother was caused to conceive Him through the direct agency of the third factor in the Godhead, viz. the Holy Ghost. (vi) After preaching, and collecting a body of disciples, Jesus was eventually crucified at the instigation of the Jewish ecclesiastical authorities at Jerusalem. He died on the cross and was buried, but His body never suffered decay. On the contrary, at some period during His burial it underwent a miraculous change in consequence of which it ceased to be subject to the physical and physiological limitations of the ordinary human organism. He emerged from His tomb, which was found empty and open, although it had been carefully guarded; and for a period of forty days He appeared from time to time, visibly, tangibly, and audibly, to certain groups of His disciples. The circumstances of some of these manifestations were such that no ordinary living man could have appeared and disappeared in the way in which Jesus is alleged to have done. (vii) After the expiry of a certain time these manifestations ceased, and Jesus is said to have ascended to His Father in heaven. Since this statement can hardly be admitted to be intelligible if taken in a literal spatial sense, it may perhaps be interpreted as follows. At the end of this period God the Son resumed a relationship with God the Father which had been suspended during the earthly life of Jesus, and He suspended or modified a relationship to the material world which He had entered into at the conception of Jesus. (I do not pretend to understand what could be meant by changes in the relationship of an eternal being either to another eternal being or to the temporal order of nature.) (ix) Henceforth Jesus guides and influences individual Christians and Christian communities by insensible means. He will continue to do this until the Day of Judgment, when He will reappear physically and sensibly, will allot fitting rewards and punishments to the whole human race, and bring the present order of nature for ever to an end.

(2) The second peculiarity of Christianity is that it took over without question the Jewish sacred scriptures; that Jesus Himself appears to have accepted them; and that apostles, such as St. Paul, whose writings are held to be inspired by the Holy Ghost, used certain statements in them as premisses for the exposition and development of Christian doctrines. Now these scriptures contain an elaborate cosmogonical scheme purporting to describe the creation of the world, of animals, and of man. They profess to account for the origin and propagation of moral and physical evil

by the disobedience of our first parents to God's commands at the instigation of an evil supernatural created being. It is an essential part of the Christian doctrine that mankind was thus alienated from God, rendered incapable of amending themselves *proprio motu*, and justly liable to be eternally punished. It is also an essential part of that religion that the incarnation of the Son of God in the man Jesus, and the life, death, and resurrection of the latter, rendered it possible (though not inevitable) for men to reconcile themselves with God, to amend their lives, and to attain eternal happiness. I think it is fair to say that there is no general agreement among Christians as to the precise way in which this cause renders this effect possible; and that there are profound differences of opinion about the part played by the voluntary co-operation of men, which is admitted to be, in some sense, a necessary condition of their salvation.

(3) There is a third peculiarity of Christianity which is closely connected with the first. The Christian scriptures and traditions, like those of most religions, contain accounts of ostensibly supernatural events. Now these reported miracles fall into two very different classes, viz. those which are part of the *content* of Christianity, and those which are, at most, part of the *evidence for* Christianity. It is an essential part of Christian doctrine that Jesus survived the crucifixion, and in some sense emerged from the tomb with a transformed body. Any ground for doubting or denying this is *ipso facto* a ground for doubting or denying a part of Christian doctrine. But it is no part of Christian doctrine that Jesus raised Lazarus from the dead or walked on the water without sinking. If every one of the latter miracles were rejected, this would not directly involve the rejection of a single Christian doctrine; though it might weaken the force of one line of argument for accepting Christian doctrines. Now the miracles of most religions fall entirely into the second class; i.e. they are, at most, evidential and not constitutive.

I hope that I have now indicated adequately and fairly the main peculiarities of Christianity. We can now ask ourselves how far, if at all, the various sciences are relevant to the truth of that religion. I must begin by mentioning an elementary logical distinction which is often overlooked. It is one thing to say of a fact that it conflicts with a certain theory. It is quite another thing to say the same fact that it undermines the grounds on which people hold that theory. It is quite possible that the former statement should be false and the latter true. If that were so, the theory would not have been refuted and would not even have been shown to be intrinsically improbable; but we should have shown that those who accept it have no valid reason for doing so. Thus our

question divides into two. (1) Do the generally accepted methods and results of the various sciences conflict with Christian doctrines, i.e. are they either logically incompatible with those doctrines or such as to render them extremely unlikely to be true? (2) Do they undermine the only grounds which people have ever had for believing Christian doctrines? We will now take these two questions in turn.

(1) The doctrines peculiar to Christianity may be divided into two classes, viz. those which are *about* Christ, and those which, though taught by Him or inferrible from His teachings, are not about Himself. I have already enumerated the former doctrines. As examples of the latter we may take the ethical doctrines enunciated in the Sermon on the Mount.

Now it is quite clear that none of the empirical sciences has or could have any logical bearing on a great deal of the Christian doctrine about Jesus. It is absurd to suppose that empirical science could prove or disprove, make probable or improbable, the doctrine of the existence and triune structure of the Godhead and of the uniquely intimate connexion between one of its differentiations and the man Jesus. The fundamental question is whether any part of this doctrine is intelligible, or whether it is nothing but meaningless verbiage masquerading in the grammatical form of intelligible sentences. Obviously that question cannot be answered by appealing to the methods or results of natural science. If any part of the doctrine be intelligible, the second question is whether it is true or false, antecedently probable or improbable. Now natural science is concerned with the interconnexions between things or events in space and time; and it is specially concerned to discover *uniformities* of co-existence and sequence among *classes* of phenomena, and to collect these, so far as may be, into a deductive system with a minimum of first principles. Therefore the question whether nature *as a whole system* depends on a timeless non-natural existent, and whether a certain *one* man once in the whole course of history was related in an absolutely *unique* way to the latter, evidently falls altogether outside the sphere of natural science. Either these questions are meaningless or they are not; and it is for philosophers, not scientists, to settle this preliminary question. If they are meaningless, conflict between science and Christian theology is impossible for the reason which prevents a lion from fighting with a hippogriff. If they are significant, such conflict is impossible for the reason which prevents a lion from fighting with a whale. And similar remarks apply to co-operation.

It would seem, however, that natural science might have a considerable bearing on the miraculous element which forms, as we have seen, an essential part of the content of Christian doctrine.

This includes, undoubtedly, the resurrection of Jesus and His subsequent supernormal physical manifestations to His disciples. Whether it also includes the story of His supernormal conception is a doubtful matter which we may leave to experts. I think that here we are at once faced with the general question: 'Do the results of science make the occurrence of supernormal events impossible or highly improbable?' This question concerns other religions as well as Christianity, and it concerns alleged Christian miracles which are cited only as evidence for Christianity as well as those which are part of the content of Christian doctrine. Unless science has something to say against the possibility or probability of miracles as such, it can have nothing special to say against the possibility of those miracles whose occurrence is part of the content of Christianity. So it will be best to defer this question.

The sciences of geology, biology, archaeology, and anthropology have collected evidence which, in the opinion of everyone competent to judge, conclusively refutes the cosmogonical, biological, and anthropological doctrines of the Jewish scriptures. Though these doctrines are not in themselves essential parts of Christian theology, they are almost inextricably intertwined with others which are, e.g. with the doctrine that mankind is tainted and alienated from God, and that the incarnation, death, and resurrection of Jesus were necessary conditions without which no man could be saved. Moreover, the fact that these false propositions were, to all appearance, accepted literally by Jesus and made the basis of certain parts of His teaching would seem *prima facie* to throw some doubt on the Christian doctrine of His divine nature.

The only other point to be noticed under the present heading is that Christianity plainly presupposes that human beings survive the death of their present bodies and are, in fact, immortal. Since this doctrine is common to many religions, and is perhaps a necessary condition of any religion, we will defer the fundamental question whether science has anything relevant to say for or against it. For the present it will suffice to remark that, unless science renders the doctrine of an after-life, as such, impossible or highly improbable, it will hardly affect the probability or improbability of the specifically Christian form of that doctrine. It is true that there are no empirical facts or scientific theories which would suggest that the present order of nature will be suddenly, radically, and permanently transformed at some date in the future. But it is no part of the Christian doctrine to assert that such a transformation will be due to the automatic development of natural processes. On the contrary, the Christian alleges that it will be due to the miraculous intervention of the Godhead. Therefore, unless science invalidates

the other parts of Christian theology or renders survival and miraculous interventions unlikely or impossible, it has no relevant objection to make against specifically Christian eschatology.

It remains to consider whether science could render those parts of Christian doctrine which are not about Jesus and the Godhead improbable or impossible. For this purpose we may confine our attention to the ethical teachings of Jesus. Some people would hold that science makes complete determinism certain or extremely probable; and that, if men's actions be completely determined, the notions of moral good and evil and moral obligation can have no application. Some people would hold that anthropological and psychological investigations show that sentences in which ethical words and phrases occur merely express non-moral desires and emotions, repressed in the infancy of the individual or inherited from the pre-history of the race. We might describe either of these views as a form of 'ethical nihilism' based on science. Now the question whether science proves or strongly supports ethical nihilism is absolutely fundamental, and goes far beyond the relation of science to Christianity. We will therefore defer it for the present and content ourselves with the following conditional statement. *If* we have any moral obligations, then natural science can throw no light whatever on those of them which are *fundamental*. At most it might support or refute certain derivative and secondary moral rules which profess to tell us how to carry out our fundamental obligations in certain specified kinds of situation. No conceivable development of any of the natural sciences could be relevant to the question whether a person ought or ought not to love his neighbour as himself. At most it might show that some secondary rule, such as 'You ought to pour oil and wine into the wounds of persons whom you find lying injured by the wayside', should be rejected because it is not an efficient means of doing good to your neighbour in the circumstances supposed. Now most of the ethical teachings of Jesus express primary or fundamental obligations. Either science shows that *all* talk of moral obligation is meaningless or inapplicable to men; or, if not, it is completely irrelevant to this part of Christian doctrine.

It should now be fairly clear that there are not many points at which the results of science and the doctrines peculiar to Christianity come into close enough contact for either conflict or cooperation between them to be possible. I think that similar reasoning would lead to a similar conclusion about the doctrines peculiar to any of the other great religions. If there is conflict, it will be over doctrines like the occurrence of miracles, the immortality of the soul, the freedom of the will, and the question whether moral predicates are significant and applicable to men and their actions.

These doctrines are common to all, or nearly all, religions, and they are peculiar to none.

(2) We can now pass to our second question. Do the methods or results of the natural or the historical sciences undermine the grounds on which men have believed the doctrines of Christianity?

It seems to me that there is a fundamental logical difficulty, which is prior to any special objections that might be made to the evidences for Christianity on the score of literary and historical criticism or the comparative study of religions. It is this. I think it would be admitted by most Christians that an essential part of their reason for believing specifically Christian doctrines is that these were directly taught by Jesus or are necessary or probable consequences of other statements which He made. But this at once raises the question: 'On what grounds do you accept Jesus as an authority on these matters?' I suppose that the answer would be: 'Because He was a being of superhuman wisdom and goodness, who was in a position to know the facts and whose mission on earth was to reveal them to men.' But this is itself the most central and fundamental of Christian doctrines; and, if Christians accept *it* on the ground that Jesus asserted it or other things which imply it, their whole position is logically circular.

Are there any independent grounds for accepting it? So far as I am aware, the only grounds that have been suggested are the following. Jesus wrought miracles in His lifetime, and was Himself the subject of the stupendous miracle of the resurrection after His death. He produced on those who knew Him so strong an impression of His divine nature and mission that many of them were ready to devote their lives and to meet a painful death in preaching His doctrines. St. Paul, who had never met Jesus and was bitterly and actively hostile to Christianity, underwent an experience which he took to be a manifestation of the risen Christ; he was converted thereby and confirmed in his new beliefs by subsequent supernormal experiences; and he spent the rest of his life in developing Christian doctrine and disseminating it throughout the Roman empire. Lastly, throughout history many people have found that certain Christian doctrines harmonize with their own deepest convictions, they have been willing to live and die for them, and they have had experiences which seemed to themselves to be evidence for the continued existence of Jesus and for His personal intercourse with them.

Let us begin by giving the fullest weight to this evidence and raising no questions as to whether there is adequate ground for believing that the alleged miracles really happened. At the very utmost it would show only that Jesus was an extremely remarkable and impressive personality; that a whole cluster of noteworthy

supernormal phenomena, both psychical and physical, were initiated by His death and continued for some time afterwards in the regions in which He had preached; that certain parts of His teaching harmonized with certain deep-seated feelings and aspirations which the existing philosophies and religions of the Roman Empire failed to stir or to satisfy; and that subsequently, when Christian institutions had been established and children were brought up in Christian tradition and doctrine, these teachings (developed, interpreted, supplemented, and modified almost out of recognition) continued to express the aspirations and to evoke the devoted loyalty of many good men.

I can see nothing in all this to justify the doctrine that Jesus occupied that uniquely exalted position in the universe which Christians assign to Him. Therefore it seems to me (as it has seemed to almost everyone *not* brought up in the Christian tradition) unreasonable to allege the mere *ipse dixit* of Jesus as an adequate ground for accepting otherwise unverifiable propositions about the Godhead, about His own relations to it, and about the supernatural origin and post-mundane continuance of the human race. I should hold, then, that the only reasons which have been alleged for accepting the doctrines peculiar to Christianity are invalidated by these general objections, prior to all appeal to the methods and results of natural or historical science. Similar remarks would apply, *mutatis mutandis*, to any other religion which grounds its specific doctrines on the authority of its founder or its prophets. No doubt it is true to say that the development of Christianity was a unique phenomenon; but, in the only sense in which this is true, it is also true of any other great historical process, taken as a whole. No *single* historical event, such as the growth of communism or of national socialism since 1918, is *precisely* analogous to the growth of the Christian Church. But we can find a number of different *partial* analogies which, taken together, suffice to bring it into line with the rest of history. Again, it is true that the survival of Christianity in its infancy and its subsequent immense development depended on certain unpredictable and antecedently most improbable events, such as the conversion of St. Paul. It is natural for Christians, afterwards, to point to these events as 'providential'. But a moment's reflexion shows that there have been, and indeed must be, such events in the early stages of *any* historical movement which starts from very small beginnings, is faced with strong opposition and has to compete with many rivals, and does nevertheless survive and become dominant. The innumerable germs of possible religions and polities which have perished and left no trace in history were just those in connexion with which no such unlikely event happened. That is why such an

event is called 'providential' when it does happen and is viewed in retrospect.

Before leaving this part of the subject, I must very briefly consider the following contention, which is sometimes made by Christians. 'If and only if', it is said, 'you will consent to act *as if* Christianity were true and will take part uncritically in the corporate life of a Christian church, you will eventually have certain experiences which are in fact evidence for the truth of Christianity, and you will be in the right state of mind to appreciate their cogency.' Now it is just conceivable that this contention might be true. But it is evident that there would be other, and considerably more plausible, psychological explanations of the apparent facts. Moreover, a precisely similar claim might be made by the adherents of any other religion, and it is in fact made by the practitioners of the Indian systems of Yoga. Lastly, it is obviously impracticable to carry out this recommendation in connexion with all the important rival religions, and it is unreasonable to pick out one of them and to perform the experiment with that one only.

So far we have supposed, for the sake of argument, that there is good evidence for the miracles recorded in the Christian scriptures. We must now examine this supposition. Here again we can go a long way with the help of ordinary logic and common sense without needing to appeal to the special methods and results of the sciences. Let us grant for the present that miracles are not impossible, and that it is not inconceivable that there should be evidence available of such strength that it would be unreasonable to doubt that a certain alleged event did happen and was miraculous. Then I assert, without the slightest fear of contradiction from anyone who has studied the records, that there is no *direct* evidence for any of the New Testament miracles which is comparable in weight to the evidence for some of the alleged miracles of modern mediumship. For the levitation and other supernormal physical phenomena of D. D. Home we have the contemporary autographic testimony of Sir William Crookes, one of the ablest experimental scientists of the nineteenth century, who was deliberately investigating the phenomena in his own laboratory under controlled conditions. It would be merely impudent to suggest that the *direct* evidence for the resurrection or the ascension, available to us here and now, is comparable with this.

Now either a Christian apologist accepts these alleged mediumistic miracles or he rejects them. If he accepts them, he acts consistently, and moreover he can use them to show that the New Testament miracles are not altogether without parallel, and therefore not antecedently so improbable as sceptics allege. But, if he does so, he must give up the contention that the New Testament

miracles testify by their uniqueness to the unique status of Christ and the complete reliability of His metaphysical and ethical teachings. If he rejects them, he can continue to hold that the New Testament miracles are unique. But now he must justify himself in accepting, on very weak direct evidence, antecedently improbable stories similar to those which he rejects where the direct evidence is extremely strong. So far as I can see, there are two and only two moves open to him at this point. The first is to allege that it is antecedently very improbable that miracles should happen in connexion with a decidedly second-rate human being, like D. D. Home, whilst it is antecedently quite likely that they should happen in connexion with a divine being such as Jesus was. So weaker evidence will prove in the latter case what even the strongest evidence cannot prove in the former. To this contention the simple and sufficient answer is that anyone who uses it cannot, without logical circularity, adduce the New Testament miracles as evidence for the divine nature and mission of Jesus; since he assumes the latter as part of his ground for accepting the former on the evidence available.

The other possible move is as follows. It might be said that, although the *direct* evidence available to us for the resurrection and the subsequent appearances of Jesus is incomparably weaker than the direct evidence for certain mediumistic miracles, yet the *indirect* evidence is overwhelming. The indirect evidence would be such facts as the change in the attitude of the apostles from despair to an active and lifelong conviction of Christ's survival, the conversion of St. Paul, and so on. I am certainly not inclined to underestimate the force of this contention, for these changes seem well attested and very remarkable, and they do demand some kind of explanation. But the utmost that can be inferred is that *something* very queer must have happened soon after the crucifixion, which led certain of the disciples and St. Paul to believe that Jesus had survived in some supernatural way; and that they were able to transfer this conviction to many others. The following remarks may be made about this.

(i) I hold that the careful work of the Society for Psychical Research has made it almost certain that there is a residuum of truth in the many accounts of phantasms of the living at crises in their lives, of the dying, and of the recently dead, being 'seen' by educated Englishmen who were awake and in normal bodily and mental health at the time. I assume that such experiences are initiated by some kind of telepathic 'impact' received from the person whose phantasm is 'seen'; that this sets up a subconscious process in the mind of the recipient, analogous perhaps to that which takes place in post-hypnotic suggestion; and that eventually this

ends by producing a sensory hallucination relevant in its details to the circumstances of the person from whom the telepathic impulse originated. Now I should think it quite likely that Jesus, who was plainly a very remarkable personality, might be strongly gifted with the power to send out such telepathic impulses at the great crises of his life and perhaps at other times too. But this would not be any good ground for attaching implicit belief to all His ethical and metaphysical teachings. I should not be at all surprised, e.g., to find that Herr Hitler had this power. But, if he had, I should not *ipso facto* accept without question all those racial and political theories which he preached with such intense conviction and applied for a time with such conspicuous success.

(ii) However this may be, it is plain that a telepathic impact, once received, would be much more likely to develop into a full-blown sensory hallucination in the minds of men like the disciples than in a contemporary educated Englishman. With the latter any such development has to overcome extremely strong inhibitions, since the final product would be utterly alien to the whole 'climate' of scientific materialism in which he has always lived and thought. Therefore I should expect that telepathically initiated sensory hallucinations, such as the S.P.R. have studied, would be far commoner and far more detailed and impressive among persons like the disciples than among contemporary educated Europeans.

(iii) A 'tough-minded' scientist, who rejects without question all the alleged evidence for contemporary supernormal phenomena, might find it difficult to deal with the indirect evidence for the resurrection and the subsequent appearances of Jesus, if he ever fairly faced it. Actually, of course, he adopts the attitude of the ostrich and faces *neither* problem. But even he could claim with justice that there might well have been some quite simple and honest mistake, or some deliberate malpractice or deception on the part of some interested person or group, in connexion with the body of Jesus; and that no direct evidence for it remains. Any particular theory of this kind will, no doubt, seem highly gratuitous and unlikely. But, after all, none of them can be so improbable antecedently as the theory that Jesus really rose from the dead, unless we assume what we have to prove, viz. that He was a divine being. And we must remember that, whilst *each one* of a number of alternative theories may be antecedently very improbable, it may be highly probable that *one or other* of them is true in view of the facts to be explained.

I should claim now to have disposed of all the alleged grounds for accepting specifically Christian doctrines, by the use of quite simple arguments without needing to appeal to modern science at all. I think we can safely assume that no appeal to science will

reverse our decision, though it might reinforce it. It is also safe to say that we could have used similar arguments to show that there are no grounds for accepting the specific doctrines of any rival religion which relies on the authority of its founder or its prophets as the evidence for its teachings. I shall therefore devote the rest of my paper to certain wider questions, which we have hitherto set aside as being relevant to all or most religions, and not only or specially to Christianity. I will now take them in order.

(1) Has science anything to say for or against the possibility or the probability of miracles? Before we can answer this we must try to explain the term 'miracle' or 'supernormal event'. This is not easy to do, but I think that the following method of treatment is fairly satisfactory. There are certain very general principles, mostly of a negative or restrictive kind, about mind and matter and their mutual relations, which we all commonly assume without question. These form the rigid framework within which all our everyday practice, our scientific theories, and even our ordinary fictions and speculations are confined. The following are some of the most important of these principles. (i) A body cannot enter or leave a closed vessel so long as the walls are intact. (ii) The weight of an object at the earth's surface cannot be altered except by immersing it in fluids of various densities. (iii) A human mind cannot *directly* initiate or modify the motion of any material thing except certain parts of its own organism, such as its arms and legs. (iv) It is impossible for a person to perceive any thing or event at a given moment unless this object has set up a physical process which affects the percipient's organism at that moment and produces characteristic sensations in his mind. (v) It is impossible for a person to have knowledge of a past event, except by inference or report, unless one or other of the following conditions is fulfilled. (a) The past event initiated a physical process which was transmitted with a finite velocity through space and has now reached the observer's organism and produced a characteristic sensation in his mind. Or (b) the past event was either an experience had by this person, or was the object of such an experience. The first condition is fulfilled in the case of a man perceiving an event which happened long ago in a remote star. The second condition is fulfilled in ordinary memory of past events. (vi) It is impossible for a person to have non-inferential knowledge of an event which has not yet happened. If he knows beforehand that such and such an event will happen, he must do so either by inferring this himself from his knowledge of general laws and particular facts about the past and the present, or by accepting the results of such an inference made and recorded by another person. Examples are provided by the two cases of an astronomer, and a student of the Nautical

Almanac, knowing that a total eclipse of the sun will happen at a certain future date. (vii) It is impossible for one man *A* to know what experiences another man *B* is having, or what propositions *B* knows or believes unless one or other of the following conditions is fulfilled. (*a*) *B* makes a statement in speech or writing or some other form of conventional symbolism, and *A* perceives the record and is able to understand and interpret it. Or (*b*) *A* perceives *B*'s gestures, facial expressions, interjections, etc., and draws inferences from them and from his knowledge of the general laws of human behaviour as to what is happening in *B*'s mind. (viii) After a person has died, his mind either ceases to exist or, at any rate, ceases to be capable of affecting inanimate matter or the bodies or minds of living men and animals.

I would not claim that this list of eight restrictive principles is exhaustive, or that they are all independent of each other. But I think it is good enough for our present purpose, which, it will be remembered, is to explain what is meant by 'supernormal' or 'miraculous'. By an 'ostensible miracle' I mean any event which *seems* to conflict with one or more of these principles, whether it does so in fact or not. By a 'miracle' I mean an event which *really does* conflict with one or more of them. Phenomena which appear to conflict with well-established laws of nature, or which cannot be explained in terms of them, but which do not apparently conflict with any of these restrictive principles, may be called '*abnormal*'; but they will not be even ostensibly *supernormal* or miraculous.

Evidently there are always two questions to be asked about any account of an ostensible miracle. (i) Did such an event as is reported really happen, and is the description of it which the witnesses give completely accurate so far as it goes? (ii) If so, is it really miraculous? Does it really conflict with any of the restrictive principles which mark off the realm of normal and abnormal phenomena from that of supernormal phenomena? Could it not be accounted for without going outside these limits?

About the first question, two of the sciences, both of fairly recent origin, have something very important to say. These are Abnormal Psychology and Psychical Research. It had always been known that human testimony is somewhat unreliable, and that human observation is somewhat defective as regards the details of perceived things and events. But no one had suspected how extremely unreliable they are, even under quite favourable conditions, until the S.P.R. investigated the matter experimentally. The classical paper on this subject is by Mr. S. J. Davey in Vol. iv of the Society's *Proceedings*. The extent to which intelligent and educated persons, who were under no emotional stress, erred, both by omission and by supplementation, in their reports of what they had

seen, is almost incredible; but Mr. Davey's results have been fully confirmed by later experiments. The contribution of abnormal psychology and psycho-analysis is to show that the real causes of much human action are hidden from the agent's introspection, and are concealed rather than revealed by his overt speech and action. We know that these causes often produce an inability to perceive or to remember or to report certain facts which were physically and physiologically well within the witness's field of observation.

In regard to the second question the most important points to be made are the following. (i) We may dismiss at once, with the contempt which it deserves, the statement that 'Science proves miracles to be impossible'. This is just ignorant bluff and bluster, which a moment's reflexion on our definition of 'miracle' and the nature of inductive evidence suffices to deflate. (ii) The development of physical science has shown that many events which were ostensibly miraculous are capable of a normal explanation. The growth of our knowledge of hypnotism, of multiple and alternating personality, and of the extreme sensory hyperaesthesia which characterizes certain hypnotic and hysterical states, tends in the same direction. (iii) The facts and theories of psycho-analysis, already mentioned above, very much weaken the force of such familiar arguments as the following. 'This act must have been miraculous unless the agent was deliberately cheating. But it is incredible that a man of his high character, with absolutely nothing to gain by cheating, and much to lose if detected in fraud, should have practised deliberate deception. Therefore it must be miraculous.' (iv) In spite of all this, I must express my conviction that psychical research has made it far more probable than not that certain kinds of phenomena which are miraculous, in the sense defined above, do in fact occur. I include under this heading telepathy (both experimental and sporadic), certain of the *mental* phenomena of mediumship, and precognition. I should not, as at present advised, include with confidence any of the ostensibly supernormal *physical* phenomena of mediumship. It remains to note that, if these supernormal phenomena should ever become familiar and be found to fall under general laws, we should eventually reject the restrictive principles with which they conflict and should then cease to call them 'miraculous' or 'supernormal'.

(2) This naturally leads to our next question. Has science anything to say for or against the possibility or the probability of a person's mind in some sense surviving the death of his body? I will begin by remarking that, in my opinion, it is almost a *sine qua non* of any religious view of the world that some men at least should survive bodily death. I take it that one minimal demand of religion is that what we count to be the highest spiritual values shall not be

merely ephemeral by-products of complicated material conditions which are fulfilled only occasionally in odd holes and corners of the universe, and are unstable and transitory when fulfilled. Another minimal demand is that there shall be at least rough justice, e.g. that evil deeds shall in the long run bring evil consequences on the doer of them, and not wholly or mainly on others. I do not see how either of these demands could be even approximately met if no man survives the death of his body. For, if this be so, not only does all the value which depends on the character and dispositions and the personal relationships of an individual vanish at his death; but also human society must eventually come to an end, and with it must perish all the values stored up in social institutions, works of art, and scientific treatises. Moreover, it is a commonplace that wicked men often die before they have brought on themselves either bodily suffering or remorse, or the disintegration of their characters or intellects, whilst wise and good men are often stricken down at the height of their powers, or survive into an old age of disease and dotage. Therefore, if science does make human survival impossible or very improbable, it does, in my opinion, deliver a fatal blow to *all* religion.

Now, with the doubtful exception of psychical research, none of the sciences tells us anything which lends the least probability to human survival. On the contrary, all that biology teaches of the detailed affinity of ourselves with the other animals, and all that physiology and anatomy tell us of the intimate connexion between lesions of the brain and nervous system and aberrations or obliterations of consciousness, produce an overwhelming impression of the one-sided dependence of mental life on certain very specialized and delicate material structures and processes.

As a professional philosopher, I am, of course, perfectly well aware that these scientific facts do not constitute a 'knock-down' disproof of survival. If there were any positive grounds *for* believing in survival, it would be easy enough to devise hypotheses to reconcile it with the biological and physiological facts which seem to make it so unlikely. I am also well aware that there are philosophical arguments against accepting the one-sided dependence of mind on body as an ultimate truth. (I have dealt with these in various parts of my published writings, and I do not find them very impressive.) In my opinion there is literally nothing but a few pinches of philosophical fluff to be put in the opposite scale to this vast coherent mass of ascertained facts, unless empirical evidence from psychical research should be available.

Do the findings of psychical research up to date do anything serious to redress the balance? Here we must distinguish between direct evidence for survival, and evidence which tends in the first

instance only to throw doubt on the epiphenomenalist view of the relation of mind and body. As regards the direct evidence, there certainly exists a considerable amount of mediumistic communication which undoubtedly involves supernormal knowledge, and is in some respects strongly suggestive of the posthumous intelligent action of certain definite human beings, such as Edmund Gurney, Dr. Verrall, and others. Yet even this is so incoherent and repetitive, and so full of surprising ignorance and error, that one feels driven to seek some other supernormal explanation of it. Moreover, the contents of the communications give us no help in the frightfully difficult task of forming any plausible positive conception of life after the death of the present body.

This brings us to the second kind of evidence. If the occurrence of telepathy, clairvoyance, and precognition were established, this would have no *direct* bearing on the question of human survival. But it would have the following indirect relevance. It would tend to throw doubt on the adequacy of the theory (which all other known facts seem to support so strongly) that the human mind is one-sidedly and completely dependent on the brain and nervous system both for its existence and for every detail of its actions. Now it is this apparently well-established fact which makes the hypothesis of human survival antecedently so incredible. On the other hand, the establishment of telepathy, etc., would also work, for a different reason, in the opposite direction. For, if we grant these powers to ordinary men during their lifetime, we may be able to explain by means of them the mediumistic communications which constitute the only direct evidence for survival.

My conclusion is that, for this essential doctrine of religion, psychical research is the *only* possible gift-horse in the field of the sciences, and that even it is quite likely to prove to be a Trojan horse. In spite of the ambiguous character of the animal, I should hesitate, if I were a religious man, to look it quite so superciliously in the mouth as the leaders of religion commonly do.

Before leaving the subject of human survival I must touch very briefly on the following point. Christians often allege that the resurrection of Jesus constitutes evidence for human survival; that, without this evidence, the doctrine would be a mere pious aspiration; but that, with it, human survival becomes an established fact. This is a favourite theme of Easter Day sermons. Now, if I may say so without offence, this seems to me to be one of the world's worst arguments. Let us grant, what is at best questionable, that the resurrection really happened as described. Even so, the case of Jesus would differ from that of any ordinary man in at least two quite fundamental respects. In the first place, if Christianity be true, though Jesus was human, He was *also* divine. No other

human being resembles Him in this respect. Secondly, the body of Jesus did not decay in the tomb, but was transformed; whilst the body of every ordinary man rots and disintegrates soon after his death. Therefore, if men do survive the death of their bodies, the process must be utterly unlike that which took place when Jesus survived His death on the cross. Thus the analogy breaks down in every relevant respect, and so an argument from the resurrection of Jesus to the survival of bodily death by ordinary men is utterly worthless.

(3) I have now taken in turn two general doctrines, viz. the possibility of miracles and human survival, one of which is vital to Christianity, and the other perhaps to all religions; and I have considered the bearing of science on each of them. In this, the concluding section of my paper, I find it convenient to proceed as follows. I propose to take certain of the sciences; to state how they have been relevant to religion in the past; and to consider whether (and, if so, how) their effect has been modified recently or is likely to be modified in future. Before doing so I will make two remarks. (i) The influence of a scientific discovery or theory on a religion can hardly ever be put in the form of a definite argument which can be tested by the criteria of formal logic or probability-theory. It may not refute the religion, but it may make one's whole intellectual and emotional background so utterly different from that in which the religion originated and flourished that it becomes psychologically impossible for one to take the religion seriously. The religious beliefs of the ancient Greeks have never been refuted, and I do not see how they possibly could be. But no one would think it worth while nowadays even to raise the question whether there are beings answering to the description of Zeus or of Hera given in classical writings. (ii) In the case of any religion which is still alive, such as Christianity in contemporary England, the effect of such influences as I have been describing varies enormously from person to person even among those of much the same level of intelligence and culture. Moreover, those who are differently influenced *now* will, for that reason, be liable to make very different estimates as to the influence which the sciences are likely to exercise on religion in the future. Where this element of subjectivity is greatest I intend to make it quite explicit by talking in the first person and stating how *I* am affected and what *I* should anticipate. Such statements need not be of merely biographical interest, for they might happen to make explicit what many of my contemporaries are vaguely feeling. If and only if this is so, they are not wholly impertinent.

For our present purpose we may divide the sciences into three groups, viz. (i) the sciences of ostensibly non-living matter, (ii) the

biological sciences, and (iii) the sciences which deal with specifically human topics. This classification is hierarchical, in the sense that the second group presupposes the first, and that the third presupposes the second. In the first group the most important for our purposes are astronomy and physics. In the third group the most important are history and archaeology and anthropology; psychology, normal and abnormal; and psychical research.

I will begin with astronomy. Any religion which can be taken seriously by intelligent men must be cosmic and not merely parochial. As men we shall necessarily be most concerned with that part of the divine system which immediately affects our race and our planet; and, if we believe that a religion has been revealed to men, we may reasonably expect that the revelation will be most explicit about that part of the system which most concerns ourselves, and which we could not have discovered by our own unaided efforts. Nevertheless, it is essential to any religion on the grand scale that what immediately concerns us should not be something isolated and self-contained, but should be an integral part of a wider system which covers the whole universe. Now Christianity, like all the great religions, claims to be cosmic in range. But it is also to a very marked extent geocentric and anthropocentric. Christ came to *earth*, He became a *man*, and eventually He went back and *ascended* to His Father in heaven. Now, as it seems to me, Christianity contrived to be at once geocentric and cosmic only because it originated and evolved against a background of astronomical theory in which the earth was the centre of the universe. This would naturally be assumed without question as a popular belief by the apostles and all the early Christians; and, in the detailed scientific form of the Ptolemaic system, it is explicitly taken by the great medieval theologians as the material setting of the divine drama. It seems to me to be assumed by Christ Himself; and some of His statements, which are perfectly sensible on that assumption, seem to be pointless on any other hypothesis.

Now, since the eighteenth century we have known that the earth is one of a number of planets at various stages of development circulating about one of a number of suns. Naturally I am not so silly as to suppose that this constitutes a *refutation* of Christianity. All I can do is to record the fact that for me personally the Christian story and the Christian theology in a Copernican universe wither like a plant taken from a hothouse and bedded out in the Siberian desert. I know well that many of the greatest astronomers have found no difficulty in remaining simple and earnest Christians. I have no comment to make except that the human mind has a wonderful power of keeping different parts of its knowledge and belief in water-tight compartments. If there is anything

at all in the difficulty that I feel at this point, no progress in astronomy which has been made since Galileo and Newton and no progress that may conceivably be made in the future can make any difference.

I do not think that the revolution in astronomy need have that detrimental effect on religion in general, or on most of the other great religions which, in my opinion, it has on Christianity. It has been said that an atheistic astronomer must be mad. I am not at present concerned to dispute this. What I do wish to suggest is that a *Christian* astronomer must have a more than Nelsonian capacity for applying his blind eye to his telescope on occasion.

We may now leave astronomy and pass to physics. In my opinion the *logical* bearing of mathematical physics, whether of the classical or the relativistic and quantic kind, on any form of religion is quite trivial. I am inclined to think that the only real logical connexion is the following. The fact that all the immense variety of inorganic natural phenomena fall under a few very general laws, and that these laws are of a comparatively simple mathematical form, seems not to be logically necessary. It looks like a kind of uncovenanted mercy, and it constitutes a certain resemblance between inorganic nature and certain products of intelligent human action, such as games of skill, puzzles, musical compositions, etc. Again, the fact that human beings have been able to discover these fundamental laws of inorganic matter, and to acquire thereby a considerable degree of practical control over it, exalts our estimate of the human mind and enlarges the gap between it and any animal mind. These two facts and their interrelation do, so far as they go, lend some support to a view of man and nature which may fairly be called 'religious'.

I must next mention a supposed connexion between mathematical physics and religious belief which I suspect to be unreal. A distinction has been drawn between two kinds of physical law, viz. 'deterministic' and 'statistical'. Until quite recently the fundamental laws of physics were held to be of the deterministic kind, and the statistical laws were held to be derivative. Nowadays, in the opinion of many eminent physicists, the situation has been reversed, and henceforth we must hold that the fundamental laws of physics are of the statistical kind. Now it has been alleged that, if the fundamental laws of physics are deterministic, all human volitions must be completely ineffective, i.e. that nothing in the material world would have been different if there had been no volitions, or if human beings had made different decisions. It is also alleged that, if the fundamental laws of physics are statistical, it is at least possible that some human volitions do make a difference to the course of events in the material world. Now it is plain

that the ethical content of religion is closely bound up with the common-sense opinion that some human volitions are effective. Therefore, if the allegation which I have stated were correct, it would be true to say that the classical physics was incompatible with an essential presupposition of religion. And it would be true to say that recent developments of mathematical physics had eased, if they had not completely removed, this conflict.

I believe that this argument is full of fallacies and confusions. I have gone very fully into the question in my contribution to the symposium on *Indeterminacy and Indeterminism* in the Aristotelian Society's Supplementary Volume x. I will therefore confine myself here to the following obvious remark. If the principles of classical physics do entail that all human volitions are ineffective, they conflict with the presuppositions of natural science just as much as with those of religion. For every scientist who ever devises and carries out an experiment assumes that his thoughts and volitions are making a characteristic modification in the course of events in the material world.

It remains for me to mention a certain psychological connexion which probably does exist in the minds of many people between their religious beliefs and what they have heard about recent developments in theoretical physics. The conceptions of classical physics were perfectly straightforward and easy for anyone to grasp and to picture. Mathematical knowledge was needed only for working out their detailed consequences. The concepts of relativistic and quantum physics cannot be grasped except by a person of considerable mathematical training who sees them as factors in a whole complicated context of theory. And they cannot be pictured at all. When attempts are made to express these concepts and laws in familiar language to uninstructed persons who interpret it literally, a mass of paradoxical and apparently self-contradictory verbiage results. Now in the good old days those who attacked Christianity from the standpoint of science could make great play by contrasting the plain common sense of physics with the mind-destroying hocus-pocus of theology. It can now be retorted that the principles of modern physics look as nonsensical as the Athanasian Creed, and yet are vouched for by eminent scientists and validated by practical applications which we can all use and abuse. In consequence some people are inclined to think that there may be something in the mysterious and apparently nonsensical verbiage of Christian theology after all.

Well, it is not for me to say that there may not be. But I do say, without the slightest hesitation, that the psychological cause which I have just described is no rational ground for thinking that there is. There is nothing mysterious or paradoxical or self-contradictory

in the physical concepts and laws so long as they are formulated in the symbolism which is appropriate to them and are viewed in their own proper context. The mystery and the paradox arise only when this symbolism is translated into ordinary words which have certain familiar associations, and when those words are heard or read by persons who lack the knowledge which would enable them to reject or correct the images and ideas which they naturally evoke. I do not think that any theologian would pretend that the paradoxes and apparent contradictions of Christian theology arise simply from this kind of distortion of something which can be quite clearly and intelligibly stated in an appropriate symbolism to experts who have mastered it. Be this as it may, the following reflexion is surely obvious. The fact that contemporary physics has to enunciate its principles in the form of apparent paradox and nonsense may be a good reason for hesitating to reject off-hand *any* doctrine *merely* because it looks paradoxical and nonsensical when stated. But it cannot be a good reason for accepting any *one* form of apparent nonsense, e.g. the Athanasian Creed, in preference to any *other* form, e.g. the Kabbala or the Hegelian Dialectic.

We can now leave the science of inorganic matter and pass to the biological sciences. I said that Christianity was essentially geocentric and anthropocentric. We have considered its geocentric aspect in connexion with astronomy; it is the anthropocentric aspect of it to which biology is relevant. Christianity arose, and Christian theology developed, in a certain context of beliefs about the relation of man to other living beings on earth. Man was created 'a little lower than the angels', and he occupies a unique status in a hierarchy of living beings at the dividing point between the angels, who are purely rational beings without material organisms, and the brutes, who are perceptive and sensitive but wholly non-rational animals. I must confess that this seems to me to be still the best available description of the peculiarities of man as he now is and as he has been throughout the whole of his written history. But contemporary biology makes it practically certain that, if we go back far enough into the pre-history of the human race, we find it developing by insensible steps from ancestors who were purely animal.

Now I do not think that there need be any great difficulty in fitting religion in general, or certain of the great historical religions, such as Buddhism, into this changed biological framework. But, for my own part, I find it difficult to see how Christianity can be fitted into it without being so radically transformed as to be unrecognizable. Certainly I know of no satisfactory attempt at such a reconstruction of Christian belief; and, unless it can be accomplished, I suspect that Christianity will become less and less cred-

ible with each succeeding generation. It may survive for a long time as a kind of religiously toned 'ethical uplift'; but I cannot believe that this will persist indefinitely when cut off from its cosmological and biological roots.

I have already said all that seems necessary about the bearing of abnormal psychology and psychical research on religious belief in general and on Christianity in particular. It only remains for me to add a few words about the influence of the other specifically human sciences. I think there is no doubt that, for many people, the results of the comparative study of religion, and the data supplied by anthropologists and archaeologists, make religious belief impossible. It seems to them to be a pathetic survival of certain beliefs, emotions, and practices, which were natural enough in the childhood and ignorance and impotence of the human race, but have now lost all meaning and relevance. This is not quite the impression which these facts produce on myself. It seems to me that science has equally humble and disreputable origins, that there has been a development in depth and insight in religion as well as in science, and that both must be judged ultimately by their fruits rather than by their roots. On the other hand, I find that the facts of anthropology and comparative religion make any claim by any particular religion to an exclusive possession of the truth too utterly ridiculous to be worth a moment's consideration.

I have one more remark to make before ending my paper. To me the occurrence of mystical experience at all times and places, and the similarities between the statements of so many mystics all the world over, seems to be a significant fact. *Prima facie* it suggests that there is an aspect of reality with which these persons come in contact in their mystical experiences, and which they afterwards strive and largely fail to describe in the language of daily life. I should say that this *prima facie* appearance of objectivity ought to be accepted at its face value unless and until some reasonably satisfactory alternative explanation of the agreement can be given. Now I am well aware that certain psycho-analysts would give one explanation of it, and that certain Marxian theorists would give another. Such explanations do satisfy some people who have studied them, and they form the staple diet of a great many more who have not done so, but have swallowed them whole in order to be in the vanguard of culture.

Now I think that each of these two types of theory contains some interesting speculations which may turn out to be true, and may cover some of the facts. But each of them seems to me to suffer very obviously from two defects. The first is that they are plainly constructed by persons who have very little first-hand or even second-hand experience of religion, and are strongly antipathetic to it

from one cause or another. I should feel some hesitation in accepting theories about the nature of music and its function in human life, excogitated by a tone-deaf psychologist whose wife had recently eloped with a musician. The psycho-analytic and the Marxian theories of religion seem to me to wear too jaundiced a complexion to inspire complete confidence. The second defect is this. Although the exponents of these theories make a tremendous parade of being 'scientific', it is perfectly plain to anyone who has studied any genuine science that they have no idea of the *general* difficulty of proving any far-reaching explanatory hypothesis, or of the *special* difficulties which exist in a field where experiment is impossible, and even the 'observations' consist largely of hearsay and tradition. The degree of their confidence is a measure of their scientific incompetence. They seem to have no notion of the importance of confronting their theories with negative instances, or of considering whether half a dozen rival hypotheses would not explain the facts equally well.

I have been obliged to paint the scene as I see it; and the prospects of Christianity, as I see them, are somewhat gloomy unless applied science (that blind Samson) should uproot the pillars of the house and bury pure science with it in the ruins. Though I am not a Christian, and never have been one since I began to think for myself, I take no pleasure in this prospect. Whether Christianity be true or false, Christ's parable about the subsequent fate of the man who was left 'swept and garnished', after the expulsion of a demon that possessed him, seems to me to be profoundly true of humanity as a whole. Ordinary human nature abhors a vacuum, and it will not for long rest content without some system of emotionally toned and unverifiable apocalyptic beliefs for which it can live and die and persecute and endure. When I contemplate communism and fascism, the two new religions which have entered into the clean-swept place and possessed it, and when I consider the probable consequences of their sisterly bickerings, I appreciate the concluding lines of Mr. Belloc's *Cautionary Tale* about the boy who ran away from his nurse in the Zoo and was eaten by a lion. 'Always keep hold of Nurse, for fear of finding Something Worse.'

SECTION THREE

POLITICS

WAR THOUGHTS IN PEACE TIME

Introduction

Statement of the Subject. If anything about the future of a nation can be inferred with high probability from its past, it is safe to assert that within the next fifty years England will have to decide whether or not to take part in another European war. Some of my readers, or the sons of some of them, will therefore almost certainly be faced with the following question: 'Ought England to enter into this threatened war or not, and ought I to use such influence as I have as a speaker, writer, or voter, for or against participation?' If it should happen that the nation decides to engage in war, each citizen will be confronted with another set of problems: 'Ought I to do all that I can to enable my country to win a complete victory, or ought I to work for a peace by mutual agreement? And, in particular, ought I to fight or to refuse to fight for my country?' These are the questions which I am going to discuss in this lecture. Before doing so, however, I propose to make some general remarks in order to clear the ground and to obviate certain preliminary criticisms.

Preliminary Objections Answered. At the very outset the following objection might be made: 'No one can foresee at present the circumstances under which England will be threatened with another war, nor can anyone foretell now the probable consequences of engaging in it or abstaining from it. Surely we should need information on both these points before we could rationally determine what our country ought to do. Is it not then idle to discuss the subject at present? Would it not be wiser in the meanwhile to turn our attention to more cheerful or more pressing questions, and to refrain from crossing bridges till we come to them?' This contention is plausible, and it will be worth while to consider how much there is in it.

It is true that each man will have to make his decision for himself when the time comes on the best information that is then available to him. And it is true that we cannot foresee in detail what the relevant factors in the situation will be. But this does not render

our present undertaking wholly futile. In the first place, we can here and now outline with considerable accuracy the *kind* of arguments which will be used on each side of the question, and can estimate their relevance and validity. It is hard enough for anyone to reach a rational decision when those emotions and passions are aroused in himself and in others which inevitably must be excited when his country is on the brink of war or when it has actually made the plunge and he has to decide whether to fight or to refrain. But it will be doubly hard for any man who has never reflected on the subject; who has never sat down in a cool hour to consider what arguments are relevant and what are not; and who has never noted, and armed himself against, those passions and prejudices which are most likely to mislead him when the time for decision comes.

We are often told by superior persons that questions of right and wrong are decided by direct insight, and not by elaborate processes of weighing and estimating; and this is often made an excuse for evading the dull and tiresome task of preliminary analysis and reflexion. The statement is as true and as false as the dictum that no one can learn to play golf or tennis from books or professionals. This is not generally held to dispense with all need for discovering and analysing our characteristic faults and trying to eliminate them by quiet practice before exposing ourselves to the stresses of a championship match. The oft-quoted couplet that

. . . high Heaven rejects the love
Of nicely calculated less and more.

is about as helpful in the moral problems of real life as it would be on the putting-green. It is therefore both practicable and profitable to utilize the breathing-space which the temporary exhaustion of Europe allows us in order to form a set of rational convictions on these subjects, and to anchor ourselves so firmly to them that they will continue to hold us when we are exposed to the full blast of private emotion and collective suggestion.

Moreover, the present is rather a specially favourable time for making such reflexions and putting them on record. For we can still remember the emotions which we felt, the arguments that were addressed to us, and the beliefs which we held in the years 1914-18. But the emotions can now be remembered in tranquillity, the arguments can now be assessed dispassionately, and the beliefs can now be confronted with the relevant facts.

Lastly, if there is any practical return which a professional philosopher can make to the community which pays him so handsomely for doing such pleasant work in such agreeable surround-

ings, it is surely that of clearing up confused ideas and pointing out specious fallacies.

Outline of the Relevant General Principles of Ethics

I have now, I hope, sufficiently explained the general nature of my subject, and adequately answered the preliminary objections to it. Without further delay I will enter upon the details of my task. I must first give a very condensed, and therefore rather dogmatic, account of the general principles of Ethics, as I conceive them. For, unless we are agreed in principle as to what determines the rightness or wrongness of conduct in general, we have no basis for discussing the rightness or wrongness of any specific kind of action, such as intervening or remaining neutral in a war.

The Factors on which the Rightness or Wrongness of an Action Depends. On my view the *Net Value* of an act depends jointly on three different factors. These are (i) its *Intrinsic Value or Disvalue*, i.e. the value or disvalue which it has in virtue of its own intrinsic qualities, as distinct from its relations to other things and from its effects; (ii) its *Immediate Fittingness or Unfittingness* to the situation in which it is performed; and (iii) its *Utility or Disutility*, i.e. its tendency to produce good or bad consequences.

Pleasantness and painfulness are the most obvious examples of intrinsic value and disvalue, respectively. It is plain that an act may be pleasant, but unfitting or likely to lead to bad consequences; and an act may be painful, but fitting or likely to lead to good consequences. Again, it is directly unfitting to answer a question with a deliberately false statement, though a lie may have great utility to all parties. It is directly fitting to fulfil a promise when called upon to do so, though the fulfilment may lead to disastrous consequences to everyone concerned. About intrinsic value and disvalue I need say no more; but there are several points to be noticed about fittingness and utility.

Fittingness and Unfittingness. In the present situation, to which the act is fitting or unfitting, we must include the results of past actions, such as explicit promises, tacit understandings, and so on. Again, the present situation will always be highly complex, and an act which is fitting to some features in it may be unfitting to others. Suppose, e.g., that I tell a lie to B in order to shield C who has made sacrifices for me in the past. My action is unfitting in so far as it is a deliberately misleading answer to B's question, whilst it is fitting in so far as it is a return of kindness to my benefactor C. The *Net Fittingness* of an action to a situation is determined jointly by its fittingness and its unfittingness to the various factors in that situation.

Utility and Disutility. The last remark about fittingness applies, *mutatis mutandis*, to utility. The consequences of an act are always complex; and some of them may be good, some bad, and the rest indifferent. The *Net Utility* of an act is determined jointly by the goodness and the badness of the various features in its consequences. There are, however, two special points about utility which need some further discussion. These are the distinction between *Direct* and *Indirect* utility, and the bearing of uncertainty on utility.

Direct and Indirect Utility. In considering the utility of an action the following complication has to be taken into account. In a certain situation the direct consequences of performing the action A might be indifferent or positively good. But in *most* situations in which an action like A is a possible alternative the consequences of performing it might be definitely bad. Or, again, the mere fact that a number of actions like A were being performed simultaneously might have disastrous consequences, although no such action taken apart from the rest would do so. The assassination of Napoleon would probably have had great net utility, but most political assassinations have predominantly evil consequences. One trespasser in a field may do no assignable damage, but the simultaneous presence of a thousand would ruin any crop.

Now, if people know that a certain action A has been performed on a certain occasion and has then had certain consequences, this knowledge will affect their own decisions when they are placed in situations in which A is a possible alternative. If it is known that A had good results, they will be liable to overlook the special circumstances in which it was performed and to decide on a similar action in situations in which it will turn out badly. If, on the other hand, it is known that A had bad results, they will again be liable to overlook the special circumstances and to shun A in situations in which it would turn out well. Again, the knowledge that A has been performed may lead so many people by imitation to perform such actions simultaneously that the collective effect is altogether different in kind from the effect of each such action taken by itself.

For these reasons we must always distinguish carefully between the direct effects of performing a certain action in a certain situation, and the indirect effects which the widespread knowledge that this act has been performed and has had such and such consequences will have on the behaviour of other men. Very often it will acquire utility from the one kind of effect and disutility from the other, and these must be carefully weighed against each other in estimating its net utility.

Uncertainty and Utility. No human being who is called upon to make a decision can possibly know with certainty the whole truth

about the situation with which he has to deal. Nor can he possibly foresee with certainty all the consequences of each alternative course of action. It is our first duty to make use of all the available information, to criticize it to the best of our ability, and to base on it the most reasonable judgment that we can make about the present situation and the probable outcome of various alternative lines of conduct. Any mistake about the facts of the present situation may make us think that A is more fitting to it than B, when really B is more fitting than A. Any mistake about the consequences of various alternatives may make us think that A has greater net utility than B, when really it has less. Provided that we have fairly used all the data available to us, and have exercised our intellects to the best of our ability in basing our estimates of the facts on these data, our decisions can be *formally* right even though they should be *materially* wrong. We have to aim always at material rightness; and, if we miss it only through unavoidable ignorance or misinformation about matters of fact, or through honestly mistaken inferences as to their consequences, we shall always secure formal rightness. But our actions cannot be even formally right if our ignorance, or misinformation, or false inferences be due to our own laziness or prejudice.

The fact that we can make only more or less probable guesses about the consequences of any action introduces certain further complications which must be noted at this point. The first is this. Suppose that A and B are two alternative courses of action. I may judge that A will most likely have the consequence x , and that B will most likely have the consequence y ; and I may be much more confident that x will follow if A be done than that y will follow if B be done. On the other hand, it may be that y would be much more valuable if it did happen than x would be. What is it reasonable to do when I have thus to choose between a smaller probability of securing a more valuable result, and a greater probability of securing a less valuable result? A second, and closely connected, complication is this. Very often, with regard to each proposed course of action, I can say only that it will undoubtedly have one or other of a certain set of alternative possible consequences, and that some of these are much more likely to follow than others. Now it may be that I can see that some of these alternative possible consequences would be very good, others very bad, and the rest moderately good or bad. What degree of net utility or disutility is it reasonable to assign to a proposed course of action in such a case?

To answer both these questions we must introduce something analogous to what is called 'mathematical expectation' in the theory of games of chance. This is defined as the product of the probability of an event happening by the amount which I shall

gain or lose if it should happen. Suppose, e.g., that a fair die is to be thrown, and I am to receive a shilling if it gives a 6, and I am to pay sixpence if it gives any other of the five numbers. My expectation of gain is then one sixth of a shilling, i.e. twopence. My expectation of loss is five-sixths of sixpence, i.e. fivepence. Thus my net expectation of loss is threepence, i.e. it would be reasonable for me to expect to be paid threepence to induce me to enter the game. Suppose now that a rival game is going on. Here there is a fair roulette-board, with one red, two white, and three blue divisions, all of equal size. I am to pay sixpence if the pointer stops at a red division, I am to receive two shillings if it stops at a white division, and I am to pay one shilling if it stops at a blue division. The red alternative gives an expectation of loss measured by one-sixth of sixpence, i.e. one penny. The white gives an expectation of gain measured by one-third of two shillings, i.e. eightpence. The blue gives an expectation of loss measured by one-half of a shilling, i.e. sixpence. Thus my net expectation of gain is one penny. If then I had to enter one game or the other it would be reasonable for me to choose the second.

Now let us compare the rival games to alternative courses of action in a given situation. Entering one of the games is equivalent to deciding on one, and rejecting the rest, of the alternative courses; and it is a rule of the universe that we have to enter one or other of the games, since 'inaction' is one alternative form of action. The various possibilities in each game correspond to the various possible alternative consequences of each alternative course of action. The sums to be gained or lost by the realization of the various alternatives correspond to the amounts of good or evil which will accrue if various possible consequences of our present action be realized in the future. The general rule is now obvious: 'Calculate the expectation of good or evil for each alternative consequence of any one course of action, counting good as gain and evil as loss. Take the algebraic sum of these expectations, and this will give you the net expectation of good or evil from that course of action. Do likewise in turn for each of the alternative courses of action. Then, so far as utility alone is concerned, that course is to be preferred which has the greatest net expectation of good or the least net expectation of evil.'

I am quite well aware that what I have just been saying must have sounded ridiculously artificial and pedantic. In real life we cannot accurately estimate the probabilities of the various possible consequences of our actions. Nor can we assign precise numerical values to the good or evil which would accrue on the realization of each of these alternatives. This is true, but quite trivial. We can and do make rough estimates of the relative probabilities of vari-

ous alternative possible consequences. We can and do make rough estimates of the relative degrees of goodness or badness of various possible states of affairs. And the artificially simplified case of games of chance does show us the principle in accordance with these two kinds of estimate must be combined if we are to reach rationally grounded judgments of final preference. We are constantly having to make such judgments, and we shall not do so any the worse for recognizing explicitly the rule in accordance with which they ought to be made.

Definition of a 'Right Act'. We are now in a position to define what is meant by saying that a certain act is 'right' in a certain situation. The *Total Net Value* of an act done in a given situation is determined jointly by its net intrinsic value, its net fittingness to the situation, and its net utility in the situation. And, in estimating the net utility, both the probability of gaining the results aimed at and the goodness or badness of the results if gained must be allowed for in the way which I have just described. Now an act is *Right* in a given situation if its total net value is at least as great as that of any other act which the agent could have done in that situation. There may of course happen to be several alternative lines of action open to the agent such that the total net value of each is the same, and such that no other alternative open to him has so great a total net value as these. If so, *all* these alternatives are right. Should there be one action whose total net value is greater than that of *every* other alternative open to the agent, we say that this is *the* right action, and that this and only this *ought* to be done. For the present purpose I include deliberate abstention from action, i.e. 'letting things take their own course', as one of the alternative modes of action.

It must be noticed that sometimes the total net value of *every* alternative open to the agent is negative. This is illustrated by the case of a man who has to choose between facing exposure and ruin or paying a sum of money to a blackmailer. In such cases the right action is the one which has the least total net disvalue.

Rival Views of Ethics. I believe that the brief sketch of the relevant principles of ethics which I have just given accords with the convictions of common sense, though it no doubt has that appearance of paradox and pedantry which always shows itself when we try to make the opinions of plain men precise, consistent, and adequate. It would be criticized for different reasons by moralists of two different kinds. On the one hand, pure Utilitarians would object to my recognizing immediate fittingness and unfittingness as an independent factor, beside utility and disutility, in determining the net total value of an action. On the other hand, extreme Intuitionists would claim that the rightness or wrongness of an act depends

only on its fittingness or unfittingness or its intrinsic value or disvalue; or, at any rate, they would assert that certain kinds and degrees of unfittingness or of intrinsic disvalue would suffice to render an act wrong no matter how much greater its utility might be than that of any other alternative open to the agent.

I do not think that either of these extreme positions is tenable, though a complete treatise on ethics would be needed to deal with them adequately. Here I must content myself with the following dogmatic assertions: (i) Though lying and injustice and ingratitude are generally objectionable even on the grounds of their bad consequences alone, this is plainly not our only ground for objecting to them. So pure Utilitarianism is inadequate. (ii) On the other hand, though people *say* such things as *Fiat justitia, ruat coelum*, I doubt whether any rational being can really *mean* that it would be better for the whole of humanity to perish in agonies than for the smallest infraction of justice or the least departure from truthfulness to take place. If anyone really does think this I can only say with Cromwell: 'I beseech you in the bowels of Christ to believe it possible that you may be mistaken.'

I do not, however, consider that differences of opinion on these points should render the whole of the subsequent discussion futile for those who disagree with me here. For I think we must grant to the pure Utilitarian that on the whole those types of action which are most strongly condemned as unfitting do generally tend to have very evil consequences when their indirect as well as their direct effects are taken into account. And I think we must grant to the extreme Intuitionist that some types of action are so utterly unfitting to nearly every kind of situation that it is highly unlikely that their utility will be great enough to counterbalance their unfittingness and make them right on the whole.

The Rights and Wrongs of War

Having stated and defended our view of the general principles of ethics, we can now apply it to the particular question of intervention or non-intervention by a nation in a war. We shall naturally consider this in turn under the three headings of intrinsic value or disvalue, fittingness or unfittingness to the contemporary situation, and utility or disutility.

Intrinsic Value of a State of War. The opinion which is commonly expressed in civilized countries in modern times is that fighting is an intrinsically evil activity, which may, however, rightly be exercised under certain circumstances because it is more fitting to the situation or has greater utility than refusal to fight. This view about the intrinsic disvalue of fighting is not universal; there are people

who believe, or who say or think that they believe, that fighting is an intrinsically valuable activity. This opinion has, indeed, most often been expressed by those whose age or sex has unhappily prevented them from enjoying in person the spiritual experience which they so highly recommend. It has also been enunciated by men who have felt that their special talents or professional training made it their duty to serve their country in some non-combatant capacity, and who, with rare self-abnegation, have consented to make themselves eunuchs for the Kingdom of Heaven's sake. In an imperfect world testimonials from such sources will always be viewed with some suspicion. But it is extremely important not to be unfair to an opinion because it has been stated most loudly by knaves and most frequently by fools. Men who have experienced in themselves and have witnessed in others the full horrors of fighting in a modern war have nevertheless expressed in a cool hour their deliberate conviction that there is in it something of supreme value which humanity cannot permanently forgo without grave spiritual loss.

The truth which there is in this contention is as follows. The ability to give up safety, comfort, and prosperity, and all kindly and familiar things, to face again and again the most hateful kinds of mental and physical torment, and to force one's mind and body to go on when nature cries aloud for rest and retreat, is one of the most admirable qualities that a man can have. Nor is it only good in itself; it is probably a necessary condition of most of the higher and more heroic virtues. But a mere capacity which is never exercised is like a jewel that never leaves the mine; what is admirable is a good disposition manifesting itself in noble action. Moreover, it is not unreasonable to suppose that capacities which remain in a state of mere potentiality for generations tend to atrophy, as the eyes of animals who live in perpetual darkness lose the power of seeing. Now it is doubtless true that even in profound peace there are always some people exercising heroic courage and endurance. Miners, sailors, and fishermen are obvious instances in point; and any poor person who struggles to keep himself and his family decent without the help of public or private charity displays as high a degree of the less spectacular forms of heroism as anyone need ask for. But it is quite certain that most people, and particularly most well-to-do people, in any civilized country are not nowadays called upon to exercise this virtue to any appreciable extent in time of peace, and would be hard put to it to find occasions for doing so. War does provide an opportunity, and almost the only opportunity in modern civilized life, for the prolonged and widespread exercise of that self-sacrificing heroism which holds nothing back and endures things past all endurance. This is what there is

to be said for the intrinsic value of fighting; and it is quite idle to ignore it, or to minimize it, or to try to hush it up.

All this being granted, much remains to be said on the other side. Even if the experience of fighting were a great and unmixed good for those who take part in it, it might be right to forgo this good. For its consequences, when conducted on the scale and with the weapons of modern war, might be so bad for non-combatants, for neutrals, and for future generations, that the evil in the results would far outweigh the good in the process itself. The utmost heroism can be displayed in shipwrecks, railway accidents, and mine explosions; but we should hesitate to admit that ships should be scuttled, sleepers be put in the way of express trains, and safety-lamps be forbidden by law, in order to keep this virtue from rusting.

At present, however, I defer the question of the utility or disutility of war, and content myself with pointing out that the intrinsic value of fighting, however great it may be, is inextricably mixed with very great intrinsic disvalues. In the first place, a very large proportion of the population of any country will necessarily consist of women, children, and men too old to fight in person. They are indeed called upon to suffer and make sacrifices, and they will probably have to do this more and more in each succeeding war. But it may well be doubted whether the passive endurance of those sordid daily and nightly hardships which are imposed willy-nilly on helpless non-combatants in time of war has any great spiritual value. I do not wish to deny that a few rare souls may be able to distil a sweet essence from standing in bread-queues by day and spending sleepless nights in cellars with their children while incendiary bombs are being dropped from hostile aircraft. But I suspect that they are in a very small minority. In most non-combatants the fruits of war-suffering are hardness of heart, an insane suspicion of their neighbours which makes them an easy prey to every kind of rumour, and a morbid hatred of the enemy which applauds and clamours for reprisals and atrocities. Those of us who can carry our minds back to London in the last year of the late war, and can focus them on such events as the Pemberton-Billing trial, will recall with horror the impression that one had of living in a criminal lunatic asylum which was being conducted by the inmates.

So much for the non-combatants. The fighting forces are no doubt largely immune from some of these moral poisons; but, even for them, the experiences of war are not an unmixed spiritual blessing. Some men are adventurous by nature, and not very sensitive to noise, bad smells, and filth. For such men a spell of fighting, if not too prolonged, is perhaps a valuable and not unpleasant

experience, which contrasts favourably with the lives which they have to lead in civilized countries in time of peace. Even they begin to degenerate if the experience be too lengthy, and if they be sent too often into the front line. But the majority of modern town-dwellers are not particularly adventurous and are rather highly sensitive. We all know that an important part of their military training consists in removing the civilized inhibitions against physical violence, cruelty, and the sight of blood and filth, which have been carefully fostered in them in peace. This deliberate eradication of sentiments of kindness, decency, and fairness, which have been laboriously built up before the outbreak of war and which will be needed again as soon as it is over, is a very high price to pay for exercising the virtues of courage and endurance, admirable as these are.

We are often told with easy confidence that man is a 'fighting animal', and that his 'fighting instincts' must be exercised if he is to keep in mental health. To this we may answer that an 'instinct' which needs such prolonged and violent stimulation to set it in action must be present in a highly modified and sublimated form in civilized men, and that there is much to be said for letting sleeping primitive instincts lie. Moreover, when this instinct is aroused, it awakes some very undesirable bedfellows which were sleeping with it, as the orgies of sexual lust and drunkenness which always accompany war bear witness. Lastly, it cannot work itself out in modern war in what is presumably its natural and primitive way. The modern soldier has not as a rule to fight hand-to-hand with other men and to pit his cunning and skill against theirs. His main business is to use and to endure the artificial products of the chemical laboratory and the engineering workshop. The effects of these are of an overwhelming intensity and violence to which nothing has approached in the past history of the race except an occasional earthquake or tornado or thunderbolt. The human mind and the human body are thus quite unadapted to these extreme stimuli, and it is ridiculous to pretend that continuous exposure to them is the natural and healthy exercise of a primitive 'fighting instinct', if such there be. Playing in a hard game of Rugby football or hockey, or riding a motor-bicycle to one's own and the public danger, are much nearer to the natural expression of this instinct in civilized men under modern conditions.

Fittingness of War. The upshot of the above discussion seems to be that the intrinsic good of fighting, under the conditions which prevail in a modern war, is inextricably mixed with great intrinsic evils, which largely outweigh it even among the military forces and still more so among the civilian population. We can now turn to the next topic, viz. the immediate fittingness or unfittingness of the

act of waging war. Here, of course, we are bound to confine ourselves to generalities. What we can do is to consider certain types of situation in which it is commonly held to be fitting to go to war. It will be remembered that we are still deferring the question of utility or disutility.

There is one general remark to be made at the outset. It is quite certain that one's knowledge of the facts of the situation will be very inadequate. And it will be liable to certain systematic sources of error, which we ought to bear in mind and allow for. No ordinary citizen is in a position to know the inner history of the diplomatic proceedings which have led up to the crisis. These will not be revealed till years later, and experience shows that they are generally widely different from what they were supposed to be at the time by the public in the various countries concerned. Each government will be trying to make itself out to be the innocent victim of aggression in order to put itself right in the eyes of its own citizens and of neutral states. In the general tension which will exist certain small frontier 'incidents' will very likely take place, many more will be imagined, and some may be deliberately organized. No attention should be paid to such stories. The childish game of 'You began it' which governments play at such times may be ignored by every sensible man. In the vast majority of past wars the dishonours were easy between all parties, and there is not the least reason to suppose that future wars will be different in this respect. But there will be the strongest temptation to believe that the war about which we have to decide is a miraculous exception to all other wars, and that our side is wholly white and the other wholly black. The first rule for keeping one's head is to remember how unlikely this is, and to call to mind all that can be said for the other side and against one's own.

We may be confident that, at the beginning of any new war, all the old springs would be pressed and all the old puppets would start to perform their familiar antics. We should again meet the sturdy pillar of Nonconformity, who had never shrunk from ingeminating peace when there was no prospect of war, and who now realizes that the cause for which his country is proposing to fight is so sacred that Christ would have broken off His Sermon on the Mount and marched at the head of His Apostles to the nearest recruiting office. The scholarly Anglican divine would once more remind us of the danger of placing a crudely literal interpretation on the fine flowers of Oriental rhetoric, and would explain that the command to turn the other cheek to the smiter was never intended to forbid starving his wife and children or dropping bombs on his home by way of reprisals. The professors of history and political theory would, as usual, discover that, whilst in all previous wars

the rights and wrongs were fairly equally divided between all the disputants, in this particular war their own country and its allies are wholly right and its opponents wholly wrong. The scientists would again divide their time between asserting that the enemy has never made a single original contribution to science and ransacking the files of his scientific publications for hints towards more diabolical methods of wholesale destruction. And, if we ventured respectfully to turn our eyes to higher things, we might again be privileged to witness the Royal Family changing its surname, like those of its subjects in whom 'new *Montague* is but old *Moss* writ large'. Bearing all this in mind, we shall not allow ourselves to believe that the contemporary situation is unique, and we shall neither absorb nor emit claptrap about 'a war to end war' or 'making the world safe for democracy'.

There seem to be two main types of situation in which it is *prima facie* fitting for a country to go to war. The first is where it is threatened with completely wanton and unprovoked aggression by another country. The second is where it has undertaken by treaty to fight in certain contingencies and those contingencies have clearly arisen. On both these scores it was *fitting* for Belgium to resist the Germans in 1914; though it does not follow that the action was *right*, since the factor of utility or disutility is relevant as well as the factor of fittingness or unfittingness. I will now say something about each of these two *prima facie* grounds for going to war.

Unprovoked Aggression. As regards the first ground I have only to remark that what, in strict law, is wanton and unprovoked aggression may, in equity, deserve a much milder name. Suppose, e.g., that a nation happens to have picked up in the course of its history territories containing almost the whole stock of certain raw materials which scientific and industrial developments have made very important to the entire civilized world. Suppose that it either refuses to let them be worked, or exploits its position to charge a fantastic price for them to all foreigners. Then an attempt by another power to seize some of these territories would certainly be represented as wanton and unprovoked aggression. And in point of law it would be so. But in point of equity it would not; for the country in question would have offended against international comity by grossly abusing the advantages which the chances of history and geography had given it. If one's country seems to be threatened with unprovoked aggression it is always proper to begin by considering whether it may not in one way or another be using its legal rights to create an intolerable hardship for others. If so, the *prima facie* fittingness of going to war in self-defence is much lessened, and there is a strong case for reducing the hardship by receding from one's extreme legal rights.

A more subtle and difficult case is the following. Nations wax and wane in power, wealth, enterprise, and population. A certain nation A may have secured very extensive territories and a great weight in international affairs when it was at its prime, whilst another nation B was in infancy or temporary abeyance. This state of affairs is crystallized by explicit treaties and tacit understandings; and it continues when A's power, wealth, enterprise, and population have begun to decline, whilst B's have greatly increased. An extremely dangerous and unstable situation thus arises. A tends to insist much on the sanctity of treaties, whilst B feels itself to be everywhere hemmed in by legal restrictions which no longer correspond to the realities of power. B accuses A of hypocrisy, and A accuses B of turbulent ambition and cynical disrespect for international law. This was the situation of England with respect to Germany before the late war, and it will be more and more the situation of England with respect to the United States as time goes on. Germany had a very poor case in law, and a very fair case in equity; and it threw away its cards by bad manners and stupid diplomacy.

Now England is likely, for the next century at least, to be a declining power, whose legal claims and traditional status are much higher than its real position in the fellowship of nations warrants. It is therefore peculiarly liable to be placed in situations in which it will be threatened with what will seem to be gross acts of aggression and insolence. One of the hardest and most unpleasant duties of Englishmen in the immediate future will be to pocket their pride, to try to realize the growing disparity between the legal or traditional and the equitable position of their country in the world, and to adjust their actions to the latter rather than to the former. In this we need not expect to be helped by any excessive display of good manners or delicate consideration on the part of foreign nations; we must be prepared in the future for a continuance of that mixture of cant, truculence, and sharp practice, which is the traditional note of the United States in its diplomatic relations with the world in general and England in particular. Happily it has so far been the great political virtue of the English to know when they are beaten, though not to acknowledge it; and we have been masters at the art of erecting dignified fictions to cover our retreat from untenable positions. We are likely to need all our skill in this art if we are to avoid disaster during the difficult period of international readjustment which lies ahead of us. In future, when we are lectured by Mrs. Hominy, denounced by Mr. Jefferson Brick, bullied by Colonel Chollop, and used as stepping-stones in the political career of the Honourable Elijah Pogrom, it may be wholesome for us to recollect how we used to admonish

continental nations for their own good in those Palmerstonian days when we were rich and they were poor. *Forsan et haec olim meminisse juvabit.*

Treaty Obligations. It remains to say something about treaties binding us to fight under certain contingencies. If such a treaty has been made public, and has never been protested against by any appreciable section of the population, and if the contingencies contemplated in it have quite clearly arisen, the unfittingness of refusing to fight reaches a maximum. Such a refusal could be right only if the disutility of fighting were quite overwhelming. If the treaty has been kept secret and is revealed only at the last moment, the claim is enormously weakened. Again, the recency of the treaty certainly has some bearing on the strength of the obligation. A treaty which has been made under entirely different circumstances by our remote ancestors, and which has never come up for discussion in the meanwhile, does no doubt impose *some* claim on the present generation. So does the will of a testator who left property for some assigned purpose in the Middle Ages. But it is plain that such obligations diminish with lapse of time and change of circumstances if they be never formally and explicitly renewed.

On the other hand, it is possible for a nation to incur, without any explicit treaty, such obligations as make a refusal to fight highly unfitting. It seems to me that England had, through the folly of successive governments and the negligence of the electorate, placed itself in this position with respect to France by 1914. We had raised legitimate expectations in the minds of the French by our actions; and we had accepted favours from France, which had relieved us of an appreciable share of the burden of keeping up adequate naval forces in the Mediterranean and had thus enabled us to increase at less expense our concentration of first-class warships in the North Sea. I should be inclined to consider this tacitly incurred obligation to France considerably more important than our explicit treaty-obligations concerning the independence of Belgium in determining the fittingness or unfittingness of our intervention in 1914. The equitable claim was more recent and more direct than the legal one.

The lesson to be learnt from this is the extreme need for constant vigilance on the part of the electorate and its representatives in Parliament. Without this we may again walk in our sleep into a situation in which we wake to find ourselves under a moral obligation to fight on one side when it would be to the best interests of humanity that we should remain neutral or support the other side. I think it is arguable that the heaviest immediate responsibility for England's intervention in 1914 lies at the door of the pacifist section of the Liberal Party. The government of the day, in order to

placate these men and to avoid the naval expenditure which they opposed, put the nation under obligations to France which it dared not acknowledge. When the crisis came we had all the disadvantages and none of the advantages of an explicit and publicly recognized alliance. We were too deeply committed in honour to France to be free agents and to consider the interests of ourselves and of Europe; and yet our obligations were so vague, and the extent to which we should fulfil them was therefore so uncertain, that they were no effective deterrent to Germany.

Utility of War. We can now turn to the third factor on which the rightness or wrongness of going to war depends, viz. its utility or disutility.

Relative Importance of Utility as Compared with the Other Factors. It must be clearly understood that, in considering the utility or disutility of an action, every kind of good or evil, from the highest to the lowest, which it may produce in any person or community must be taken into account. To anyone who suggests that considerations of utility and disutility are sordid and selfish, and should be as dust in the balance in comparison with intrinsic value and immediate fittingness, there are two answers to be made. The first is that he is quite unjustifiably assuming that utility and disutility refer only to the lower kinds of good and evil, such as economic prosperity or physical want, and further that only the welfare of the agent is to be considered. The second is that, although a sufficiency of food, clothing, shelter, and safety may not themselves be goods of a very elevated kind, they are an indispensable condition without which any widespread development of the higher gifts and graces of the human spirit is quite impossible. I do not deny that a life of asceticism may be an excellent thing for those who feel a call to it and deliberately choose it; nor do I doubt that there are certain virtues which flourish best in some rare souls amidst squalor, disease, and danger. But freedom of thought and speech, humour, and toleration, without which science, art, and literature die or become barren or engender monsters, are possible only when there is enough wealth and security to free large numbers of men from an incessant and involuntary struggle for mere existence. There is therefore no *a priori* reason to underrate the bearing of utility or disutility on the rightness or wrongness of actions.

The next fact to be noted is that utility and disutility are of much greater relative importance in determining the rightness or wrongness of collective actions, such as going to war, than of predominantly private actions, such as exacting or remitting the payment of a debt from another man. There are two reasons for this.

In the first place our notions of what is fitting or unfitting in the

relations of communities to each other are much less clear than our notions of what is fitting or unfitting in the relations of individuals to each other. We know quite well, within fairly narrow limits, what kind of conduct is unfitting for a child to its parents, for a master to his servants, for a recipient of kindness to his benefactor, and so on. In the case of the mutual relations of communities we first vaguely personify them, and then try to apply to them the criteria of fittingness and unfittingness which we use in connexion with individual members of a single community.

A moment's reflexion will show that this procedure must be highly misleading. Nations are not persons; the relations between nations are not those of fellow citizens within a nation; and it is to the last degree unlikely that these profound dissimilarities of nature and relationship make no difference between the rights and duties of nations and those of persons. The fact is that nations are spiritual entities of a perfectly unique kind, which stand in perfectly unique relations to each other. We have yet to elicit and define the ethical concepts which are applicable to them; and, until this has been done, our judgments as to what is fitting and what is unfitting in their relations must remain vague and unsatisfactory. At the one extreme we have the Gladstonian Liberal, who proposes to treat peoples exactly as if they were persons, and who sentimentalizes over small nations as if they were delightful, though sometimes amusingly naughty, little children. Under stress of circumstances he very easily joins hands with his Tory opponent, who is passionately anxious to fix the 'responsibility' for a war on a certain nation and to exact 'punishment' for it, naïvely believing that these notions of 'responsibility' and 'punishment' must apply to communities because they apply to citizens within a community. At the other extreme stands the cynical supporter of *Realpolitik*, who, seeing that the rights and duties of nations cannot be *the same as* those of persons, denies that they have *any* rights or duties at all and tries to reduce international politics to the level of a thieves' kitchen or a Chicago gang-fight. So long as our concepts and judgments of fittingness and unfittingness in international affairs remain at their present level of vagueness and uncertainty our estimates of utility and disutility must predominate over them in determining the rightness or wrongness of such acts as entering or avoiding war.

There is a second reason which reinforces the same conclusion. Nations last for an indefinitely long time as compared with persons, and the effects for good or evil of their collective actions tend to be far more extensive and enduring than those of the private actions of persons. The decision of a nation to go to war may profoundly affect the welfare of millions of men, both within and without it,

for many centuries. It is no doubt true that the most trivial personal decision that an individual can take will have *some* bearing on the welfare of himself for the rest of his life and on the welfare of others throughout all future ages. But any such decision is so small a cause-factor among so many others which are quite independent of it that its contribution to the total good or ill of the world soon becomes infinitesimal. For this reason intrinsic value and immediate fittingness are relatively important factors in determining the rightness or wrongness of most of our private actions, but utility must altogether predominate over them in determining the rightness or wrongness of a collective decision.

The Direct Disutility of Modern War. There are two things which are absolutely certain about war. The first is that it would even now produce enormous evils. The second is that every year that elapses enormously increases the evils which it would produce. I am inclined to think that we hardly realize as yet the destructive power of the bombing aeroplane, and the utter impossibility of defending large towns against aerial attack by an enemy who is willing to sacrifice men and machines. Even those aeroplanes which the defenders succeed in bringing down will do fearful damage when they fall with their load of high explosives. The only reply to air-raids is to make counter-attacks on enemy towns. Such attacks and reprisals are likely to lead to a crescendo of blind hatred and mutual destruction in which the artistic productions of the past and the social organization of the present will perish. It is hard to think of any one human achievement which has been such a curse to humanity as the conquest of the air is likely to be. But we must expect that this and other means of destruction will be developed, and that others yet unthought of will be discovered.

Modern industrialized society is in a position of great and increasing danger. It, and it alone, is able to produce destructive agents of colossal power in unlimited quantities; and yet it is utterly dependent on a most complex system of transport, drainage, and instruments for the production and distribution of gas, water, and electricity, which can be completely wrecked in a short time by these agents. It is constantly devising more and more powerful means of attack, and it becomes every year more and more dependent on the integrity of those material devices and social organizations which it is less and less able to defend.

I must insist that we have here a situation to which there is no precedent in the recorded history of mankind. In previous wars between European nations there was little real danger of a wholesale destruction of the material and spiritual inheritance from past ages and of the whole basis of civilized life. But in future wars there is a risk, amounting almost to certainty, of civilized populations

being reduced to something worse than savagery. Savages can hunt and spin and weave and cook. But the average inhabitant of a modern industrialized country can do none of these things for himself. Destroy the organizations on which he has been wont to rely for food, clothing, heat, water, and light, and he is reduced to a much more hopeless condition than any savage. In that state everything that gives dignity to human life would perish for centuries. Pestilence would breed in the corpses of those whom famine had destroyed, and in the end a small and embittered remnant would painfully relearn the arts of the primitive savage among the wreckage of a dead civilization. Flourishing civilizations have perished from time to time, and I suppose that each felt secure up to the end and said to itself: 'Soul, thou hast much goods laid up for many years. Take thine ease, eat, drink, and be merry.' But God said to them: 'Thou fool, this night shall thy life be required of thee'; and there is no certainty that he will not pass the same sentence on us.

Duration and its Bearing on Disutility. The greatness of the evils to be anticipated from a war, and the certainty of their being produced, depend largely on its duration, and this in turn depends on whether the belligerents are of nearly equal or of very unequal strength and resources. If certain goods could be secured, or certain ills be avoided, by a short enough war, it might be worth while to embark on it in spite of the evils which it would inevitably entail. But the disutility of a war increases very rapidly with its duration, and there soon comes a point beyond which no good to be gained or ill to be avoided by it can balance the evils involved in its continuance. It is therefore important to insist that there is a natural tendency to underrate the probable duration of a war, and that as soon as any war is started certain causes begin to operate which tend to prolong it unduly.

In the first place, as a war goes on, the civilian populations in each of the belligerent countries become more and more enraged with each other. Each is suffering great and increasing hardships which it ascribes to the malice and wickedness of the other. Each sees the other only in the distorting mirror of newspaper articles and public speeches, in which everything to the credit of the enemy is suppressed, everything to his discredit is paraded, and the most fatuous outbursts of his fire-eating professors and blood-drinking maiden ladies are quoted as if they were the considered opinions of his normal citizens. It becomes increasingly hard to bear steadily in mind that the enemy population really consists in the main of decent, foolish, frightened donkeys like ourselves, shying at shadows and pursuing ever-retreating carrots, and not of the tigers and apes which they seem to us and we seem to them. Very

soon there arise on each side stories of atrocities committed by the other. Some of these stories are likely to be true, since war gives opportunities for cruelty and lust and removes some of men's usual inhibitions. Most of them will be false, some will be deliberate lies, and hardly any will rest on the kind of evidence which a rational man should demand in such matters. All the atrocities committed by our own side will be suppressed or represented as legitimate reprisals, or the reports of them will be rejected by us with contempt if they should happen to reach us. The same will be true *mutatis mutandis* of the enemy. Lastly, those who have lost friends or relatives in a war tend to become the most violent advocates of its continuance. Their ostensible reason is that, unless a complete victory be won, those whom they have loved and lost will have given their lives in vain. Such people are not, of course, in a rational frame of mind, and it is neither profitable nor decent to attempt to argue with them. If it were, one might point out that the continuance of the war is certain to involve further bereavements to themselves or to others and is quite uncertain to lead to victory for their side, and that bereaved persons in the enemy country are using precisely the same arguments in favour of continuing the war till *we* are completely beaten.

Into this witch's cauldron of fear, hatred, misunderstanding, and unreason each government proceeds to pour the poison of deliberate propaganda, and all the arts of commercial advertising are invoked to stimulate these evil passions to the utmost. There are few more discreditable incidents in recent English history than the invention and propagation of the lying story about German corpse factories, on which an English officer (and therefore a gentleman, at least by profession) publicly plumed himself after the war. The result of all these violent stimuli, natural and artificial, is to produce a state of mind which makes it increasingly difficult to initiate proposals for peace, and impossible to negotiate a reasonable treaty when the war does end. To carry on the war with the fullest intensity the statesmen of each country have to raise devils which they cannot lay, and these turn and rend them when they eventually try to make a peace which shall bear some relation to the facts of real life.

One highly characteristic fallacy which tends to the prolongation of war and prevents the negotiation of a reasonable peace is the belief that what would answer to the demands of abstract justice *must* for that reason be attainable and worth struggling for at any cost. Thus, in the late war, most people in the allied countries were convinced that Germany was wholly responsible and that abstract justice demanded that the German people should be punished and should make reparation for the damages of the

struggle. I am not concerned here and now to consider whether the notions of responsibility and reparation have any clear meaning as applied to nations, or whether, if they have, the allied judgment about German war-guilt was in fact correct. The important point to notice is that the widespread superstition that what is abstractly just *must* for that reason be practicable and expedient needlessly prolonged the war and led to the economic absurdities of the peace treaty with its aftermath of misery and embitterment.

Quite apart from the special causes which I have been mentioning there are general reasons which tend to make a war continue when once it has started. If A has on the whole been more successful than B up to date, A's people will expect to go on being successful and to win a complete victory. It is hardly in human nature to be content with a reasonable compromise when a solution dictated by oneself seems to be within one's reach. Even those whose religion assures them that the meek will inherit the earth are often strangely reluctant to make any substantial offer for the reversion. Any statesman in A who suggests making peace will either have to propose such ridiculously severe terms to B that there is very little hope of B accepting them, or he will be accused by his fellow countrymen of throwing away the advantages which the genius of the commanders, the heroism of the troops, and the sacrifices of the civil population have won. On the other hand, any statesman in B who suggests making peace will be accused at home of disheartening his own side when just a little more effort would have turned the scale, and of encouraging the enemy who would otherwise have begun to slacken. The situation is like that of a busy tutor who has been entertaining a party of shy undergraduates to lunch. They are longing to be gone and he is longing to be rid of them, but neither party sees how to make a move. This social knot is generally cut by the tutor being rung up on the telephone, or by someone calling to take him for a walk. This is remotely analogous to the case of a neutral offering his good offices to the belligerents. But unfortunately the analogy cannot be pressed very far. Each belligerent will feel that there are much the same objections to being the first to accept the offer of a neutral as there are to being the first to propose negotiations direct to the enemy. In the meanwhile the war drags on, and those who are striving to bring it to an end by negotiation have to disguise their activities as though they were criminals instead of public benefactors.

We can now sum up the results of this discussion on the disutility of war under modern conditions. Once a war has broken out it tends for several reasons to perpetuate itself. Thus any war between opponents of nearly equal strength is almost certain to last too long. Now the material damage done by a protracted war,

waged under modern conditions between highly industrialized nations, is certain to be so great as to render the survival of civilized life in them highly doubtful. And the psychological and moral consequence of a long-continued war is a state of mind in which it is impossible to make a reasonable peace or to get it accepted if it could be made. What good thing can possibly come of people who have been encouraged to believe fantastic fictions and to entertain preposterous hopes until they can no longer recognize or face facts, who have been worked into a state of exasperated self-righteousness, and whose nerves have been shattered by anxiety, bereavement, privation, and aerial bombardment? Now I do not know of any positive good which is at once very great, almost certain to be obtained by war, and most unlikely to be obtained without war, which could be set against the enormous and certain evils which war would entail. Thus I cannot believe that war under modern conditions between nations of fairly equal strength could ever have positive net utility. I think we may safely assume that it would always have very great net disutility. This, however, is not by itself sufficient to condemn war on the score of utility. Might there not be situations in which every alternative open to a nation had a net balance of disutility, but the alternative of going to war had less net disutility than any of the others? This would mean that there are some evils so great and so certain to ensue without war, so surely to be avoided by war, and so unlikely to be avoided by any other means, that it would be reasonable to incur the immense and certain evils of war in the hope of avoiding them. Are these conditions ever fulfilled?

Relative Disutility of War Compared with Other Alternatives. It is alleged that, from the point of utility, war is sometimes to be preferred to any other available alternative. For this three main grounds are given, and I will now consider them in turn.

The first is that a certain Nation X is growing stronger and stronger and more and more ambitious, and that unless it be checked now it will destroy the balance of power and dominate the world. This has been the ground on which England has most often taken part in continental wars in modern times. The argument assumes that the hegemony of one power would be so great an evil that almost any sacrifice would be worth while in order to avoid it; that it almost certainly will ensue and will continue indefinitely unless it be forcibly prevented; and that there is a very good chance of preventing it by going to war at once. Every one of these assumptions is highly questionable. We have no experience to tell us what the hegemony of one power would be like; but it is obvious that, under modern conditions, the force of boycott, of passive resistance, and of propaganda is so great that continuous

severe oppression of large civilized communities by foreigners is impracticable. If Great Britain cannot impose its will beyond very restricted limits on Ireland or on India, it seems out of the question that any nation, however great its military strength, could seriously oppress the population of Europe.

Again, a hegemony maintained by force against the will of a majority or even of a large minority would almost certainly fall of its own weight in a few generations. The governing class in the dominant power would develop vices, weaknesses, and internal dissensions; whilst their own people, exposed to ceaseless propaganda from the rest of Europe, uneasy in their own consciences, and tired with the strain of empire, would become a weapon which could be used against others only with the greatest caution.

Lastly, a war to prevent X from upsetting the balance of power hardly ever has the designed effect. In the first place, it is almost impossible to stop just when the balance is reached. The war goes on of its own momentum, and ends with Y dangerously powerful and X unduly weakened. Secondly, if the war lasts for long, *all* the belligerents will be so weakened that the balance is utterly destroyed in favour of some neutral power Z. Both these things happened in the late war. The two main results of the sacrifices made by England for the balance of power were that France was enabled to replace Germany as the military bully of Europe, and that the United States became enormously rich and powerful as compared with each of the belligerents. How much it is worth while to do and to suffer in order to substitute Tweedledum for Tweedledee and to fatten the 'monstrous Crow, as black as a tar-barrel' I leave my readers to estimate.

The second common argument is that a war with X is inevitable sooner or later, and could never take place under such favourable conditions to ourselves as now. This is a valid argument, provided the premisses were certain. But they never are. Everything in politics is at the mercy of so many unforeseeable contingencies that it is never reasonable to hold that a political event is inevitable or that future political conditions will inevitably be less favourable than present ones. Against these future possibilities we must put the complete certainty of incurring great and increasing evils at once if we embark on war. I should say that, in view of these considerations, it is nearly always reasonable to stave off war and trust to the chapter of accidents.

The third argument is commonly used during a war in order to prevent a country from considering proposals for peace without victory. We are told that, unless X be utterly defeated now, we shall never be secure and the war will only break out again in a short time. This is a particularly silly argument. In the first place,

it could at most be no more than highly probable that war would break out again in future if we negotiate a peace now, whilst it is quite certain that war will go on if we do not do so. Secondly, it assumes that, if the war be carried on, X will be utterly defeated, and that, if X be utterly defeated, war in future will be highly unlikely. Both these assumptions are extremely doubtful. The time when negotiations are first mooted is sure to be a time when neither party is in so favourable a position that he is certain to win if the war goes on. Again, the utter defeat of X may indeed make it impossible for *him* to renew the war in the near future. But it will certainly lead to X being so disgracefully misused in the final treaty that he will continually intrigue with other powers to get it altered in his favour. And the general economic distress and inflammation of national feeling due to a prolonged war increases the likelihood of breaches of the peace between other nations, even if X be as chastened as he is impotent. All this is perfectly illustrated by the present state of Europe. France clamoured for the war to be continued until she could gain complete security by crushing Germany. Having got her desire, she dictated terms so fantastically unjust that Europe has been in a turmoil ever since. And France, instead of waking to security, has merely turned in her sleep and fallen into another nightmare.

The fact is that no intelligent man would be persuaded by such weak arguments as these unless they were addressed to him when his intellect is clouded by emotion and influenced by mass-suggestion. It is therefore important that Philip sober should convince himself that they are fallacious and should stamp this conviction so deeply into his mind that it may keep him from the grosser forms of folly when he becomes Philip drunk.

To sum up. I am not of course prepared to say that there have not been or could not be situations in which, from the standpoint of direct utility, war is the least undesirable alternative open to a nation. But I am quite sure that such situations have been much rarer in the past than they have been thought to be. And, since the evil consequences of war are certain to increase continually with the development of more potent and wholesale methods of destruction, situations in which war is the least undesirable alternative open to a nation will become rarer and rarer.

Indirect Utility of War. I have so far confined the discussion to the *direct* utility and disutility of war. Has it any *indirect* utility to be set against its very great direct disutility? Undoubtedly it has. It is plainly useful that there should be a widespread belief that nations will go to war rather than submit to wanton aggression, since the existence of this belief must tend to check such aggression. Now this belief is not likely to survive very long unless nations from time

to time actually do go to war in self-defence. It will be noticed that the wars which thus have indirect utility are also the wars which, as we saw earlier, have the highest degree of fittingness. In such wars, and in such only, fittingness and indirect utility point unambiguously in one direction, whilst direct utility points in almost every case in the opposite direction. These then are the cases in which there is the greatest likelihood that fittingness and indirect utility may counterbalance direct inutility and make war on the whole the right alternative to choose.

There are, however, ways of meeting aggression by passive resistance which, if practised on a large enough scale and with anything like the heroic determination which men display in war, would act as a very strong deterrent. They would thus have much of the indirect utility of a war in self-defence. And, although they cannot be practised without entailing much loss, suffering and embitterment, their direct disutility is not to be compared with that of war. Moreover, they become more and more effective as national life becomes complex and industrialized. It seems to me therefore that, even from the standpoint of indirect utility, war is to be condemned as compared with these subtler and no less heroic methods of resistance which are so much better adapted to the present state of human society in civilized countries. If the meek would only combine intelligence, organization, and unflinching courage and endurance with their meekness, it is difficult to see what could prevent them from inheriting the earth.

Duty of the Citizen whose Country is at War

It remains for me to say a few words in conclusion on a much more difficult topic. If I am right, it is the clear duty of each of us to do what he can to prevent his country from engaging in war under almost any conceivable circumstance, however provoking, and on almost any pretext, however respectable. And it is our clear duty, if it should become involved, to make every effort to bring the war to an end at the earliest possible moment by a negotiated peace in which neither side can claim a victory or impose its will on the other. On these two points I feel about as little doubt as I do on any proposition outside pure mathematics. But this does not give any clear indication towards answering the question which will face all males of military age if their country should become involved in war, viz.: 'Ought I to join the forces, or to refuse to do so?' This option, of course, remains a real one even if service be made compulsory by law, and no legal exemption be granted for so-called 'conscientious' objections. For no one can be forced to do what he believes to be wrong if he is prepared to take

the extreme consequences of refusal. What little I can say about the ethical principles involved in this question may be divided under the two heads of fittingness or unfittingness and utility or disutility.

Fittingness of Military Service. As regards fittingness there are two extreme views. Some people hold that it is always fitting to fight for one's country when it is involved in war, regardless of present circumstances and probable future consequences, and that this imposes an obligation which overrides all other considerations. Others hold that it is always unfitting to use violence to a fellow man, no matter what may be the provocation and no matter what may be the consequences, direct and indirect, of non-resistance, and that the obligation thus imposed is paramount over all rival claims. Both these extreme views seem to me quite plainly ridiculous, though each has been held by men whom one cannot but respect. The second appears to have been what the English law, or the tribunals which administered it, meant by a 'conscientious objection'. As this definition, if strictly interpreted, would make it logically impossible for anyone but a fool or a fanatic to be conscientious, it seems highly desirable to amend it. I shall therefore insert at this point what I take to be the correct definition of 'conscientious action'.

An action is 'conscientious' if and only if the following conditions are fulfilled. (i) The agent must have reflected on the situation, the action, and the alternatives to it, with a single-minded view to discovering what is right. In doing this he must have tried his utmost to learn the relevant facts and to give to each its due weight, he must have exercised his judgment on them to the best of his ability, and he must have striven to allow for all sources of bias. (ii) He must have decided that, on the information available to him, the action in question is probably the right one. And (iii) his belief that this action is right, and his desire to do what is right as such, must be a *sufficient* motive-factor in causing him to do it.

Two explanatory comments must be made on this definition. (a) It does not matter what theory, if any, the agent may hold as to the factors which determine rightness or wrongness. It is obvious that one can be a conscientious Intuitionist, a conscientious Utilitarian, or a conscientious 'plain man'. So long as he gives due weight to all the factors which, *on his view*, determine rightness or wrongness, his action can be conscientious, whatever his view may be. (b) It is *not* necessary that the agent's total motive in doing the action should be *unmixed*. So long as the belief that the action is right and the desire to do what is right are in operation, and provided that this motive-factor is so strong that it would suffice to make the agent do the action even if the other factors pushing him

in the same direction were absent, the action remains conscientious no matter what other motive-factors may be present.

It should be obvious enough from the above definition and the comments on it that no human being can possibly be certain that he is acting conscientiously. *A fortiori* no earthly tribunal can reasonably be expected to pronounce on whether a man's action is conscientious or not. It would therefore seem desirable that in future wars 'conscientious objection' should cease to be a legal ground for exemption from military service.

As regards fittingness and unfittingness, I think that most men in their saner moments would be inclined to accept the following propositions. It is highly fitting to fight for the defence of one's country, and there is a strong obligation to offer to do so if there be no law imposing military service. Again, it is fitting to obey the laws of one's country, and there is therefore a strong obligation to obey a conscription act if it is in force. Hence anyone who refuses to fight for his country, when it is at war and has adopted conscription, is going against two strong obligations which his position as a citizen imposes on him. Lastly, if a man refuses to fight, no matter how exalted his motives may be, he inevitably makes himself dependent for food, shelter, and comparative safety and comfort on the sacrifices of those of his fellow citizens whose consciences permit or direct them to fight. Now there seems to be something grossly unfitting in this relation of one-sided dependence. So much must certainly be said against refusing to fight.

Yet I think we should all admit that there are counter-claims, and that they might conceivably make military service unfitting on the whole for certain persons. Every man is a member of other communities beside his country, e.g. his family, his church, his trade union, Europe, and so on. His relations to each of these communities make certain things fitting and others unfitting for him to do. These various obligations may conflict, and there is no *a priori* reason why the claims of one's country should always outweigh the opposed claims which arise from one's membership of other communities. Whatever decision we may make we shall act fittingly towards some factors in the total situation and unfittingly towards others, and we cannot say off-hand what course of action will have the greatest net fittingness or the least net unfittingness.

Utility of Military Service. Let us now turn to the question of utility or disutility. The governing considerations here are that when a nation is involved in war it is undesirable that it should either win a complete victory or suffer a complete defeat, and it is undesirable that the war should drag on for long. These considerations may sometimes point in different directions. If one's refusal to join the forces were an example likely to be widely followed,

such an act might at certain stages of the war have great utility or disutility. But it is fairly safe to assume that one would be in a very small minority, and that one's refusal would have no appreciable effect either directly or by example on the duration or the final outcome of the war. We must therefore consider more remote consequences.

It is on the whole most desirable that laws should be obeyed, especially when they impose unpleasant duties. Anyone who publicly breaks any law, good or bad, to some extent weakens respect for law in general. There are plainly strong unworthy motives, such as fear and love of comfort, which act on nearly everyone and tend to make men shirk military service though fittingness and utility should combine to make it a duty. If even a few men refuse to serve on even the highest motives, their example will tempt men whose motives are not high at all to break this and other laws. It seems to follow that the State is justified in punishing with the utmost severity those who refuse to serve. It is true that this will have no effect on the action of the genuinely conscientious objector, and that, in his case, it amounts to persecution. But there seems to be no other way of separating the few conscientious sheep from the many unconscientious goats. And I am inclined to think that the genuine conscientious objector will rather welcome severe treatment and even the death-penalty, since it tends to neutralize the unfittingness of his one-sided dependence on the risks and sufferings of those who fight.

On the other hand, it is well that some few individuals should refuse to obey the State and should deliberately take the consequences. There is no community on earth whose claims on its members are always and everywhere paramount to all other claims; there is no community which is so liable to forget this fact as the modern nation-state; and there is no time at which it is so likely to be forgotten as when a nation is involved in war. It is therefore most important that nations should be forcibly reminded at such times that 'patriotism is not enough', and that their governments should be told plainly, in the words of Horace, *Dīs te minorem quod geris imperas*. For this reason it may be very useful that a certain number of men should believe it to be wrong to fight for their country, should act on their convictions, and should pay the penalty. It is expedient that the law should be broken, and it is expedient that the law-breakers should suffer; and, if this seem a paradox, the whole of applied ethics is so full of such paradoxes that one more need not greatly disturb us.

There is no call to be sentimental about conscientious objectors to military service. Like the early Christians, a few were knaves, most were fools, and all were intensely irritating to their neigh-

hours. But, when this is admitted, it is well to remember that the best of them were intellectually and morally the salt of the earth, and that the only people with whom they can fittingly be compared and by whom they could fittingly be criticized were the best of their contemporaries who deliberately joined the army in the early days of the war. The fact is that these two classes of men could quite well appreciate each other's position, and differed, not in principle, but in their final decision on a most difficult moral question. They did not, in the main, pass harsh judgments on each other. It was reserved for those whose sex, age, or occupation made it easy to avoid danger without reproach to ascribe the actions of all who refused military service to the lowest motives, to incite the passions of the mob against them, to try to deprive them of such rights as the law allowed, and to hunt from public life the men who protested in the name of legality and decency. It is not pleasant to recall such vileness; but it is salutary to do so, lest, when similar temptations recur, 'the dog should return to his own vomit, and the sow that has been washed to her wallowing in the mire'.

AFTERTHOUGHTS IN TIME OF GOLD WAR

On reading through this lecture of 1931 after a lapse of twenty years, which have included a second world war followed by a state of extreme international tension which threatens to culminate in a third, it is a source of melancholy satisfaction to find how little I have to modify, at any rate in the more depressing parts of what I then wrote.

All that was said about the immense disutility of war and its inefficiency to produce positive goods or to remedy evils without introducing others at least as great, has been abundantly illustrated. This certainly needs no emphasizing for a contemporary Englishman, who has seen his country reduced to penury and impotence in the process of replacing one hateful tyranny by another equally loathsome and no longer balanced by any power in Europe capable of withstanding it. The miseries and disorders which followed the first world war furnished the opportunity for a set of unscrupulous fanatics, who may not unfairly be described as Jesuits without Jesus, to seize and consolidate power in Russia. Partly by good luck and partly through the imbecility of those who were temporarily allied with them in the second world war, they have been enabled vastly to extend their power outside their own territories; to crush Poland, for whose defence ostensibly we went to

war with Germany; and to install their puppets in Czechoslovakia, for which country our efforts and sacrifices secured just two years of precarious freedom. The Baltic States, which gained their independence as a result of the first world war, and which were on the whole decent flourishing communities, have been crushed, and absorbed by the standard processes of organized treachery from within and blackmail from without, and their populations have been treated with that sickening cruelty which has become so much a matter of routine that we have almost ceased to react to accounts of it.

The two world wars have left those members of the Communist Party in Russia, who have proved fittest to survive in their peculiar environment, in complete control of a country with huge resources and a vast and rapidly growing population of naturally submissive and carefully indoctrinated men and women, bursting with energy and self-confidence. They are assisted in every other land by a fifth-column of their dupes and devotees. No medieval Pope in his wildest dreams can have hoped for such a combination of spiritual and material power. In the meanwhile the further progress of natural science has provided tyrannical governments with hitherto undreamed-of means of enslaving men's minds by large-scale propaganda, of isolating them from all outside influence which might unsettle their beliefs, and of controlling their lives from the cradle to the grave without fear of effective resistance. Finally, it must be noted that a totalitarian state, consisting of an unscrupulous oligarchy in control of a suitably conditioned population of semi-barbarians, is far better fitted to prepare secretly for war, to begin it suddenly and treacherously, and to wage it with success, than is a softer and more civilized society which conducts its affairs by open discussion, respects the rights of minorities, and has constantly to adapt its policy to the immediate *prima facie* interests of a short-sighted and ignorant electorate.

Now it is an old observation that the Devil can quote Scripture for his own purposes, and it is certain that the widespread consciousness of the futility and the disutility of war under modern conditions is at present a very powerful weapon in the hands of ambitious states with aggressive designs on their neighbours. It was used by the rulers of Nazi Germany, to whom I believe we owe the word 'war-monger', and the Communist rulers of Russia have imitated and improved upon their methods in this as in so many other matters. Plainly, it is to the interest of any state which contemplates aggression to undermine the will to resistance in its intended victims and to hamstring their military preparations. One of the most effective ways available at the moment for this end is to organize emotional appeals, over the heads of govern-

ments responsible for defensive preparations, to peoples who are sick of war and its aftermath and dread nothing so much as its renewal. Moreover, since defensive preparations divert labour and materials from the manufacture of consumers' goods, which everyone would like to have, and from capital expenditure on more ideal objects, such as housing and education, there is a very favourable ground for the reception of high-sounding arguments against them.

One might be inclined to console oneself with the proverb: 'In vain is the net spread in the sight of any bird.' One might be inclined to assume that the thought embodied in Dr. Johnson's remark: 'When a butcher says that his heart bleeds for his country you may depend upon it that he has no uneasy feeling', would arise automatically in the mind of any sane person, especially when the butcher in question has so recently and so publicly slaughtered so many victims, and when his heart bleeds for the natives of countries whose duly elected governments he continually loads with abuse. But these legitimate expectations are by no means always fulfilled, and many of the *intelligentsia* in Western countries are reduced to a state of dithering imbecility by this transparent propaganda.

Communist 'peace' propaganda has made the word 'peace' stink in the nostrils of decent men, and I should not like to reprint my lecture without adding the following explicit statement of my present position. I do not hold, and I have never held, that there is any logical inconsistency between emphasizing on the one hand the extreme desirability of keeping out of the war, and holding on the other hand that this and other nations, which stand (however imperfectly) for what I regard as the elements of political decency, should be so strongly armed as to deter nations whose principles and practices I abhor. It is obvious that the existence of adequate armaments in the right hands, and the knowledge that they would in the last resort be used, may in certain circumstances be the best means of avoiding both war and the imposition of an evil system upon unwilling victims by those methods of chicane and blackmail which are a cheaper substitute for war. I believe that such circumstances exist at the present time. I believe therefore that the best hope of preserving peace and avoiding the further spread of those monstrous evils which have engulfed so much of Eastern Europe is for the Western nations to rearm as quickly and as thoroughly as possible, even at the cost of great present sacrifices. I do not pretend to think that, even so, there is more than a slender chance of avoiding a third world war in the near future. But, when all alternatives are evil and no expedient has more than a faint chance of success, it is the part of a wise man to adopt and reso-

lutely to pursue that course which appears to offer the least net expectation of evil. If the Western nations were inevitably doomed to remain hopelessly inferior in military power to Russia and her satellites, there might be something to be said for adopting the attitude of a rabbit fascinated by a boa-constrictor and pretending to believe against all evidence that the serpent has a heart of gold which can be touched by conversing with it round a table. But I see no reason to think that our military position is so desperate that it could not be redressed in reasonable time by an effort which is well within our power to make. The great danger is, no doubt, that Russia may decide to strike during that period, but that is a risk which it seems to me we have to take.

So far I have been concerned with points in which I should wish to supplement, but not to modify, what I said in the lecture. I pass now to certain topics in which later experience leads me to think that I was mistaken.

When I wrote the lecture the worst consequence which I contemplated, as a result of submitting without resistance to the violent demands of a foreign country, was that one's own country should be ruled by, and in the supposed interests of, the least sympathetic Western European nation, such as Germany as it was in 1914. That would not have been at all a pleasant fate, as the situation of the Polish inhabitants of Prussian Poland before the first world war suffices to show. But at least one could have counted on one's rulers sharing the general values of Western civilization and being limited by the general legal and moral inhibitions which Western Europe had inherited from Greek philosophy and Roman law and the Christian Church. It is plain that this assumption no longer holds. The examples of Nazi Germany and Communist Russia show that there are no limits to the cruelty and injustice to which large sections of the population of a country would be subjected if it were to come under the control of a modern totalitarian state dominated by some crazy ideology. In proportion as the evils to be expected from submission are greater the arguments against military resistance, based on the evil consequences even of successful war, are weakened.

A second point on which I now think that I was mistaken is in the importance which I attached in several places in my lecture to the power of passive resistance as a means of countering oppression. I think that I was wrong in generalizing from the success of that policy against the British government in India. It must be remembered that that government, so far from being 'satanic', as the late Mr. Gandhi with characteristic inaccuracy called it, was singularly mild and decent even by the more humane standards of twenty years ago. It was, moreover, under the ultimate control of

the British electorate, which had begun to feel moral qualms about the right of England to govern India and which would certainly have declined to support any thorough and long-continued measures of repression. That Mr. Gandhi's policy of non-violent resistance had a considerable degree of success under those exceptionally favourable conditions is no guarantee that a similar policy would have any success at all if directed against a really tough modern dictatorship on the German or the Russian model. I do not see either Hitler or Stalin or any of their pupils permitting to a political opponent those opportunities for well advertised and medically controlled 'fastings-to-death' which the British government in India so freely accorded to that sanctimonious old sea-lawyer who at last fell a victim to the evil spirits which he had, however unwillingly, so largely contributed to raise.

I could not allow my lecture to be reprinted at the present time without referring explicitly to a topic which is unfortunately somewhat delicate and highly actual, viz. the United States of America. All that I said in the lecture about the decline in England's wealth and power, both absolutely and in relation to the United States, and about the extreme difficulty of feeling and speaking and acting appropriately in the worsened situation, has been abundantly confirmed and made more tragically pertinent by subsequent events. So far, then, I have nothing to withdraw or to apologize for. But there is a sentence, in which I refer in very unflattering terms to the traditional note of the United States in its dealings with foreign nations, which I cannot allow to be reprinted without comment. What I have to say about it is as follows.

I do not think that this sentence has always been wholly untrue, but I think that it was exaggerated even at the time when it was written and that it would now be indecent and most untimely for any responsible Englishman to write and publish it. I retain it simply because it would be dishonest to omit it tacitly, and one could not call attention to the omission without more or less repeating the original offence in doing so.

I have no particular admiration for 'the American way of life', so far as it is known to me. In certain respects it seems to me to be tolerable only by contrast with the Russian way of life, and I do not regard this as very high praise. I have sometimes been tempted to say that it seems a pity that the immediate future of civilization must be determined either by the Criminal Lunatic Asylum in Moscow or by the Home for Retarded Adolescents in Washington. But no third alternative is at present in sight, and I should have thought that no Englishman in his senses would have any difficulty in making his choice between the two. The 'retarded adolescents' belong, after all, to our own culture and traditions; the defects

which annoy us in them were fairly characteristic of ourselves when we had vast wealth and power; and there is nothing in the nature of American conditions and institutions to prevent them from maturing and mellowing with experience and responsibility. It does not appear to me that anything similar can be said in mitigation for the 'criminal lunatics'.

Now, granted that in the end we have no genuine option but to cast in our lot with the United States, there is surely nothing to be said for doing so ungraciously and recalcitrantly with endless nagging and sniffing and qualifications and suspicions. The position of a father, who has seen better days and is now living largely on doles from a son who parted from him in anger long ago and has abundantly made good, is doubtless a difficult one. It is not improved when the old gentleman gives himself airs, tacitly assumes that he has a right to be maintained in a state rather better than that to which he was accustomed when he was able and willing to work hard, and visibly winces at the accent and the table manners of his now-wealthy son. The policy, favoured by so many left-wing intellectuals in England, of nagging at one's by no means inalienable friends in the hope of placating one's implacable enemies, seems to me to be neither sensible nor decent.

It is common in these circles to talk disapprovingly of 'American imperialism'. It is well to remember in the first place that the word 'imperialism' is at present little more than an emotive noise used to express or to evoke an unfavourable reaction. Two of the best periods in the world's chequered history were when the Roman empire and when the British empire were strong and self-confident and had lost the crudity of youth without having fallen into the self-questioning and decrepitude of age. The world is safest for decent humane people at those rare and transitory conjunctures when a temporary equilibrium between the claims of God and of Mammon has been brought about by the statesman-like good sense of Belial. So much for 'imperialism' in general. Nothing could be more absurd than to apply that name to the policies of the United States up to date. From historical causes that country has been specially unwilling to undertake the responsibilities of empire and to exert that pressure on backward and quarrelsome peoples which its wealth and power would enable it to do. For my own part I think that the best that could happen to the rest of the world is that the United States should become *more* imperialistic, and that it should endeavour to fill the very dangerous vacuum created by the collapse of the British empire.

If they should take up this burden, they will inevitably make many mistakes; but those who will not risk making mistakes will never make anything. To judge by our own experience, they will

certainly get no gratitude even from those whom they have best served, and they will be exposed to the constant self-righteous criticism of persons too high-minded in general to do any good to anyone in particular. But, when their day too is done and they are numbered with Rome and with Britain among the shades of departed greatness, they may have earned the epitaph which Claudian wrote for the Roman empire on its deathbed:

Haec est in gremio victos quae sola recepit,
humanumque genus communi nomine fovit,
matris non dominae ritu, civesque vocavit
quos domuit, nexuque pio longinqua revinxit.

FALLACIES IN POLITICAL THINKING

I WANT to discuss and illustrate in this paper certain fallacies which we are all very liable to commit in our thinking about political and social questions. Perhaps 'thinking' is rather too high-sounding a name to attach to the mental processes which lie behind most political talk. It is at any rate thinking of a very low grade, for a considerable proportion of such discussion in Press and Parliament and private conversation hardly rises above the intellectual level of disputes between boys at a preparatory school.

The first fallacy which I will consider is this. There is a very natural tendency for a person to base his judgments about present trends and future prospects on the quite recent history of a quite small part of the world, in particular on what has happened in his own country during his own and perhaps his parents' lifetime. Now the features which he notices in this restricted segment of space-time, and which he makes the basis of his political and social judgments, may depend on a concatenation of circumstances which have seldom occurred before, are unlikely to happen again, and perhaps never existed outside a small area. This may well lead to an unjustified optimism or an equally unjustified pessimism, and in any case to ill-founded judgments.

I suspect that all Western Europeans and their relatives in the United States are now, and have been for a century or so, particularly liable to commit this fallacy; and I suspect that Englishmen are even more exposed to it than their neighbours on the Continent. I will now try to explain and illustrate these statements.

Consider, e.g., the extreme peculiarity and the exceptional favourableness of conditions in England as compared with most other parts of the world from, say, 1066 to 1914, and in particular from 1800 to about 1900. In the first place, while practically all continental nations were repeatedly subject to invasions, which brought the horrors of war home to most of their inhabitants, England was free from foreign invasion, and, except on a very few occasions, free from any serious risk of it. The only wars within England were civil wars, and it may fairly be said that they were on a small scale and conducted with reasonable humanity in com-

parison both with simultaneous operations on the Continent and with present-day practice throughout the world. I am sure that this long and singularly happy experience has tended to make Englishmen oblivious to the irrational hatreds and rivalries, the bitter and justified mutual fears and suspicions, and the ever-present temptations to fanaticism and cruelty which are normal to the inhabitants of a large part of Europe and of Asia. It tends to make them regard as normal a degree of kindness, straight-dealing, good sense, and readiness to compromise in all political relationships, which in fact is and always has been most uncommon. It is inevitable that calculations and expectations based on such illusions should often break down. We are then very liable to complain that we live in peculiarly evil times and among peculiarly ill-behaved neighbours; when in fact the times and the neighbours are much as they have always been, and it is we who are judging them from a very narrow and exceptionally lucky historical and geographical basis.

Still confining our attention to the peculiarities of fairly recent English experience, we may next consider how utterly exceptional was our economic position from about 1780 to about 1914. We had a very hard-working populace and highly enterprising employers, vast stores of easily exploitable coal and iron, and a very favourable geographical position on the edge of Europe and facing the New World, and we were in control of a considerable proportion of the richest undeveloped lands on earth. We built up a highly organized industrial and commercial system before anything like it had developed elsewhere. So for a long time we could sell our manufactured goods throughout the world without serious rivalry and could import cheaply food and raw materials. During this period we were able to make enormous investments in every part of the world, so that, even when the initial advantages which we had enjoyed over other nations had greatly diminished, the income which we received from these made up for the decreased rate of profit on our foreign trade.

Now it seems to me that the very natural mistake of regarding as normal and permanent this quite exceptional and temporary state of affairs, which in fact lasted for about four generations, caused Englishmen to make frightful mistakes of policy and continues to bedevil all our affairs. We committed the extraordinary error of thinking that, because free trade had suited us in that peculiar situation, it would inevitably be adopted by other nations; whereas the very facts which made it convenient to us made it inconvenient to them, and forced them to adopt protective tariffs. Under the influence of these beliefs we let our agriculture, which had been the finest in the world, go to ruin, and our population swell in-

ordinately and crowd into towns. We banked on peace as something normal, whereas it has never been more than an interlude in European life, and we made our system more and more vulnerable to the direct and the indirect effects of war. Never perhaps in history has a community so whole-heartedly put its shirt on the wrong horse. We sold our heritage for a mess of pottage, and now the pottage is eaten and the mess remains.

It is a striking instance of the power of the fallacy which I am illustrating, that in 1946, when the conditions had plainly changed catastrophically and permanently to our detriment, a large proportion of the electorate and apparently many of the leading politicians of both parties believed that we could both improve our standard of living and diminish our hours of work. I suppose that the more responsible politicians and at any rate some of the less stupid of the trades-union leaders have by now ceased to believe this palpable nonsense. But, to use an excellent word coined by the late Lord Keynes, the process of 'de-bamboozling' their followers is a very slow and painful one. Even now, when England has already once defaulted for vast sums to the United States and seems not unlikely to do so again, and when our not very exalted standard of living is precariously maintained by the sale of our foreign investments and by American doles, ungraciously granted and ungratefully accepted, a majority of the English wage-drawers still live in Cloud-Cuckoo Land. They still believe that higher real wages for less effort are just round the corner, and that they would be realized to-day were it not for the machinations of that mysterious entity 'They' which has replaced the old-fashioned Devil in popular imagination.

Let us next consider an example of this fallacy which is common both to Americans and Englishmen. This is the very usual belief that what we know as 'democracy' is a suitable article for export and a form of government which all and sundry could and should adopt. For my part I prefer to avoid the word 'democracy' altogether, for it has become little more than an emotive noise with the minimum of cognitive meaning. What in practice it means for us is roughly this. It means that legislation and administration are subject to the control of a representative assembly, chosen at fairly frequent intervals by almost universal suffrage exercised by an electorate organized into two nearly equal political parties. It is assumed that the electors record their votes and that the representatives conduct their discussions without serious interference from the executive or from powerful individuals or groups. It is further assumed that the magistrates hold their offices independently of the executive, the representative assembly, and the electorate; and that they habitually make their judicial decisions, even in matters

which directly concern the government, in accordance with existing law and without being subject to pressure either from the executive or the populace.

Now I am not concerned to discuss the merits and defects of this form of government. What I do wish to emphasize is that it presupposes a certain very special kind of historical background and contemporary conditions; that these are absent in the greater part of the world; and that there is not the faintest reason to believe that it is a practicable form of government for most peoples at most times. Even if it be, as I think it probably is, in the abstract a less undesirable form of government than most of the known alternatives, it does not follow that it is the best form for those peoples in whom the necessary conditions for its success are lacking. It may be better to have a worse kind of government, suited to one's traditions and situation and national character, than a better kind imported from abroad which is a grotesque misfit. I will now develop this point in rather more detail.

So far as I am aware, this kind of government has never worked even moderately well except in Great Britain, Scandinavia, Holland, Belgium, and Switzerland, and in those non-European lands which were first peopled by emigrants from certain of these parts of Europe and are now occupied by their descendants. It is difficult to say with confidence that it has worked decently in France, and one can say with certainty that it has been a fiasco in central, eastern, and south-eastern Europe. One hardly knows whether to laugh or to weep at the *naïveté* of the common American belief that it is a suitable system of government to impose upon Japan; and our own talk of 'educating Germany for democracy' seems to me little less ludicrous.

Judging from English and Swedish experience, I should say that a necessary historical background to this system is a long process of political development from pre-Christian times, in which kings, nobles, farmers, burghers, churchmen and lawyers all played their part, and in which men became accustomed to reach decisions by discussion and on the whole to abide by those decisions even when they went against their wishes and immediate interests. In both Scandinavia and England, though in different ways, the very ancient and quasi-religious respect for traditional laws, as something binding alike on rulers and ruled, for the authorized exponents of those laws, and for the courts in which they gave their decisions, has been immensely important.

Two other important conditions, which have existed in England and Scandinavia but are lacking in many parts of the world, are these. In the first place, the population is or believes itself to be racially homogeneous, and it is practically homogeneous in its

religion or irreligion. How important this condition is may be seen by comparing the histories of the two neighbouring islands of Great Britain and Ireland. Secondly, there has not been a hopelessly deep cleavage between different classes of society, and above all there has been no violent revolution leaving embittered memories behind. It seems to a foreign observer that French political life, e.g., is poisoned by traditional hatreds and loyalties going back to the revolution, from which we are luckily free. I would add, for what it is worth, a certain degree of calmness and phlegm in the average Englishman, Dutchman or Swede which contrasts with the excitability that one seems to notice in many other races.

I think that it would be rash to assume even that this system will continue to work tolerably well in the lands in which it is native, now that the conditions have become so unlike those under which it grew up. A system which developed and flourished in a comparatively small society, mainly occupied in small-scale agriculture and handicraft, may easily break down when that society has enormously increased in numbers and has grown into a predominantly urban collection of factory and transport workers, shop assistants, clerks, and minor government officials, largely dependent upon foreign trade. But, however that may be, it is plainly most dangerous to assume that it can be transplanted and will flourish in societies in which the essential historical background has never existed and the essential contemporary conditions are wholly lacking.

Finally, I will take an instance of this fallacy which is probably common not only to Englishmen and Americans, but also to most Western Europeans. This consists in taking as normal the peculiarly favourable economic conditions which prevailed in Europe from about 1850 to 1930, and assuming that, apart from occasional set-backs, they will continue and even grow more favourable. If I am not mistaken, that relatively fortunate economic situation, and the marked rise in the standard of refinement, decency and humanity which it made possible, depended on very special conditions which seem unlikely to recur in the foreseeable future. For a short period the resources of food and raw materials available to Europeans increased at a much greater rate than the population which could exert an effective demand upon them. This happened through the rapid exploitation of the virgin lands of America, Australia and Africa, and the simultaneous development on a vast scale of methods of cheap and quick transport and of cold storage. As a part of this unusually favourable situation huge numbers of men and women were able to relieve the pressure of population in Europe by emigrating and settling in these empty fertile lands,

where their labours not only supported themselves but also produced a surplus for those whom they had left at home. I do not see how anything closely parallel to this can happen again to Western Europeans. On the other hand, the population of these new lands has grown and will continue to grow. Their demands for food and raw materials will increase, and so too will their power of producing cheaply and efficiently all the manufactured goods that they need. They will thus have less and less to export to Europe and less and less inducement to take European manufactured goods in exchange. So far from the economic conditions which prevailed in the world during the lives of our grandfathers and fathers being normal, they may be compared to a tidal wave which has left Western Europe in general and England in particular stranded high and dry on a shelf on the face of a cliff, from which it is impossible to climb up and hard to climb down without disaster.

I could easily give other examples of this fallacy of taking temporary and local conditions as permanent and world-wide and basing one's political judgments and actions on that assumption. But it is time to mention and illustrate other common fallacies. I shall take next a bunch of them which it will be convenient to group together under the name of 'causal fallacies', because they all involve a reference to causation though some of them involve other notions beside.

Quite apart from all metaphysical questions, the notion of cause is a complex one which needs a fairly elaborate and subtle logical analysis. It would be inappropriate to enter in detail into this here and now; it will suffice for our present purpose to say that the statement that *C* causes *E* sometimes means that *C* is a *necessary* though perhaps not sufficient condition of *E*, sometimes that *C* is a *sufficient* though not perhaps necessary condition of *E*, and sometimes that *C* is a set of conditions which are *severally necessary and jointly sufficient* to produce *E*. Now popular talk about this causing that does not clearly distinguish these alternatives. It is very common, e.g., to start from the fact, which may be quite trivial and even tautologous, that *C* causes *E* in the sense that it is a necessary condition of *E*; then to take for granted that *C* causes *E* in the important and doubtful sense that it is necessary and sufficient to produce *E*; and then to infer various far-reaching practical conclusions from this.

An example is the assertion, often made with a great flourish of trumpets by pacifists, that armaments cause war. Since war involves, by definition, a conflict between the armed forces of nations, it is a tautological proposition that armaments are a necessary condition of wars. From this nothing follows except the

platitude that, if all nations simultaneously disarmed and remained disarmed, there would be no more wars. This does not give the slightest guidance as to what a particular nation should do, if it is practically certain that at least one fairly strong nation will retain its armaments. It is obvious that there are situations in which a diminution of armaments by a certain nation or group of nations increases the chances of war, whilst an increase in their armaments diminishes it.

This example illustrates another very common causal fallacy. It is alleged, rightly or wrongly, that if all the members of a certain class, e.g. all nations or all the individuals of a certain nation, were to act simultaneously in a certain way, certain very desirable results would follow. It is concluded that each member of that class ought to act in that way, regardless of whether the rest do so or not. This is crazy logic and crazy ethics. Often it is not enough that even a large majority of the members of the class could be relied upon to act in the way suggested if one or a few were to set the example. One of the greatest difficulties of social and political life is that the pace is inevitably so largely set by the most backward and most evilly-disposed individuals and communities. The existence of a single powerful aggressive fanatical nation, like pre-war Germany or present-day Russia, is enough to make it suicidal for other nations to reduce their armaments. And the existence of a comparatively small minority of criminals or lunatics or abnormally inconsiderate individuals within a community compels all its other members to take precautions and to support punitive and preventive measures which they would gladly do without.

Another common causal fallacy may be called for shortness the 'extrapolation fallacy'. It may be described as follows. It is known or reasonably conjectured that a change in a certain direction has produced predominantly good results. It is then uncritically assumed that further doses of change in that direction will produce still further predominantly good results, and that it is desirable to administer these additional doses as soon as possible. It is forgotten that almost any change involves at least some loss in some respects as well as gain in others, and that it often produces certain positive evils which would otherwise not have existed. The gains may well overbalance the losses, and the main positive goods may well be greater than the collateral positive evils, until the process has gone a certain length; but the losses and the collateral evils may begin to predominate if it is carried further. Again, even if it be desirable on the whole to continue a certain process further in the same direction, it is often most undesirable to do so with the maximum possible speed. People who would benefit from a slow development, to each phase of which they had time to adapt themselves or

to adapt their children, may be merely bewildered and demoralized if the pace becomes too hot for them.

All this is admirably illustrated by the transition from handicraft to large-scale mechanized production and the continued application of new scientific discoveries and techniques to the conditions of daily life. Up to a point there is clearly an enormous gain in handing over to machines much of the heavy drudgery of human work, in making possible the rapid transport of goods and persons over long distances, and producing and distributing food, clothing and other necessities and even luxuries on a scale which would otherwise have been impossible. But it is plain that there are great and increasing disadvantages to be set against this. The most obvious, and the one which lies not far at the back of the minds of all of us nowadays, is the almost unlimited power of destruction which the later developments of this process have put into the hands of individuals and communities much below the level of intellectual, moral and political development at which they can be trusted not to misuse it. I have little doubt that any benefits which mankind may have derived from the invention of the internal combustion engine are heavily outweighed by the fact that it has made the bombing aeroplane and the submarine warship possible and actual. It would be platitudinous to enlarge on the disasters with which mankind is threatened by the most untimely discovery of a means of releasing atomic energy.

I suspect that the only recent advances of applied science on which we can still on balance congratulate ourselves are in the regions of biology and medicine. But we must not forget that each branch of science and technology is so intimately linked with all the others that the advances which we welcome would be impossible without the conditions which have led to those which we deplore. It is the same great tree which bears the poisonous berries, the refreshing fruits, and the healing balsams, and it may even happen that some of its poisons are an essential ingredient in some of its wholesome products. (Cf., e.g., the use of the products of atomic disintegration as tracer elements in medical research.)

In this connexion it may be worth while to note the following fact. Sometimes the development of a certain social trend leads to results which almost all decent and sensible people deplore. Yet the development of that trend in any one society may make that community so powerful in relation to others that they are compelled to follow suit and to impose it on themselves if they will not be rendered impotent and perhaps have it and even worse things imposed on them by others. Large-scale industrialization and the great increase of urban population which accompanies it are a case in point. This is a development from which a nation with a reason-

ably small well-distributed population and a comfortable balance between agriculture, fishery, manufacture, etc., might well pray to be delivered. But those nations in which such a development takes place become so powerful from a military and economic standpoint that they can and do dictate the conditions of life to all the others.

It will be of interest to consider some of the less obvious disadvantages of a too great or too rapid industrialization. In the first place, it is a very serious loss indeed that most men and women should spend their lives utterly out of touch with the sources in nature from which their food and clothing and raw materials ultimately come; that men should no longer have the pride and pleasure of exercising their natural and acquired skill in making entire articles for use or ornament with their own hands and with comparatively simple tools and machines; and that women should no longer be good cooks and housewives and seamstresses, but be content to buy ready-made food in tins or take meals in public restaurants. Leisure is very dearly bought at the price of becoming and knowing oneself to be a mere cog in a complex machine, with no resources in oneself, no pride or pleasure in one's work, and nothing to fill the vacuum except smoking and drinking reduced to a semi-conscious routine, listening to mechanical music, witnessing and betting on athletic contests in which one never participates, and enjoying vicarious sexual thrills as a spectator at a cinema or as a reader of the police news in the Sunday paper. Yet this is, in fact, what the leisure gained by industrialization means for a large proportion of its beneficiaries. Moreover, as industrialism develops, and with it the population grows and becomes more and more urbanized, relief from drudgery is paid for by increase of nervous strain, by the unhealthy tiredness engendered by travelling long distances in crowded conveyances from and to one's work, by the deafening noise and filthy stench of mechanized traffic, and so on.

Industrialization has already destroyed and continues to destroy natural beauty on a vast scale. But there seems good reason to think that it has begun to undermine itself by destroying the natural fertility of the soil and the natural balance of plant and animal life over huge areas of the earth. Nor is this the only way in which its inordinate development cuts away the branch on which it sits. I would venture to suggest that it engenders a psychological condition which in the long run may well be fatal to it. What I have in mind is this. As the organization of industry becomes more complex the connexion of individual diligence and efficiency with economic or social reward becomes more and more remote. So, too, does the connexion of individual slackness and incompetence

with economic or social disadvantage. The remoteness of this connexion tends to be increased still further by the methods of taxation and the social welfare legislation which are characteristic of communities in which the balance of political power is in the hands of the wage-drawers. Now there is no evidence for, and much evidence against, the view that the average person under normal conditions will work hard and strive to be efficient in intrinsically uninteresting tasks when not under the stimulus of direct economic or social advantage or disadvantage to himself or his family. A rapidly decreasing number of wage-drawers still have the habit of working hard and efficiently as a kind of hangover from an earlier and simpler social system and the customs and standards of values which accompanied it. A few persons will always do so because they are made that way. A considerable number will do so for short periods under the stress of some crisis which appeals strongly to certain social feelings, e.g. when their country is visibly in danger of immediate defeat in war, or when a revolution is taking place or a new system which appeals to their emotions has lately been set up. But I see no reason whatever to believe that any but very direct and visible motives of economic gain or loss to themselves or their families can be trusted to call forth continued efficient work at dull tasks in most men at most times. Yet the system will not provide a high standard of living and leisure unless it can call forth steady continuous effort in the employees while they are at work, and enterprise and inventiveness and readiness to take risks on the part of the directors, whether they be private individuals or State officials.

I find it hard to believe that the communists have discovered any permanently effective alternative to the direct economic incentives which are now ceasing to operate in Western Europe and will probably in time cease to do so in America. At the moment they enjoy all the advantages of a religious revival combined with such a crisis-mentality as evoked prodigious efforts in England in 1940. Even so, this has to be supplemented by the daily terror of the concentration camp and the political witch trials, and has to be stimulated by increasingly strident propaganda, in which self-adulation and anti-foreign war scares are mingled in a welter of nonsense and mendacity which can rarely have been equalled in the long history of human folly and wickedness. If these things have to be done in the green leaf, what will be done in the dry when the Church Militant shall have become the Church Triumphant? I cannot but suppose that even Slavs eventually become inured to this stuff, and that it will become less and less effective as a stimulant in the dull, daily, irritating round of work in factory and field and mine. Then nothing will remain but naked terror, and I doubt

whether this is an efficient method of stimulating production in the long run and on a large scale. I wonder what proportion of the populations behind the iron curtain even now are occupied as policemen, prison warders, *agents provocateurs*, and in the hundred-and-one other non-productive tasks involved in building the New Jerusalem.

For these reasons, quite apart from the high probability of a catastrophic upset in the near future through atomic and bacteriological warfare, I suspect that industrialism, like fermentation, generates by-products which gradually check its development and might even bring it to a not very stable state of equilibrium. I cannot pretend to shed many tears over this. I do not view with any enthusiasm a millennium in which there would be no square inch of the earth's surface that did not stink of petrol and humanity and re-echo with the blare of the wireless loud-speaker discoursing mechanical music, enunciating platitude or nonsense, and ingeminating hatred.

It is high time to turn now to another common causal fallacy, viz. that which has been called *post hoc ergo propter hoc*. From the nature of the case it is extremely difficult to say with any high degree of reasonable confidence whether a certain factor did or did not contribute to an important extent to cause a certain other factor in social or political phenomena. This is because it is practically impossible to isolate the facts to be investigated, to find really parallel cases, to devise and perform experiments intended to answer definite questions, and so on. But fools cannot be restrained from rushing in where logicians fear to tread; and, if some fairly outstanding social phenomenon *A* immediately preceded some other fairly outstanding phenomenon *B* in some part of the world at some period in history, they will promptly generalize and conclude that *A* is necessary and sufficient to produce *B*. It will be entertaining to consider some examples of this.

I have heard it cited as an instance of the truth of Karl Marx's economic theories that they enabled him to prophesy that great wars would happen with frequency in the Western world, that they would be increasingly destructive, and so on, and that we have seen this prophecy abundantly fulfilled. As if wars had not been a regular occurrence in the history of Europe and the rest of the world throughout recorded time; as if they had not always been waged with the maximum resources available at the time to the belligerents; and as if those resources had not enormously increased through industrialization and applied science. How can any particular theory be verified by foretelling what could have been foretold with confidence on almost any theory or on no theory at all?

Another example concerns 'democracy' in the Western sense of

that word. It is often said by political speakers and writers in England and America that the superior efficiency of our system of government is shown by the fact that we defeated the non-democratic Germans in two great wars. The fact is that Germany came within an ace of defeating us, and that in both wars we had as an important ally Russia, a country which was in 1914 and is now at the opposite pole to all that we understand by democracy. The really relevant factors were that Germany, by stupid diplomacy, blundered into war with too many strong nations at once; that England was an island and the United States far too remote to be attacked; and that the combined industrial resources of these two countries, if once they were given time and opportunity to deploy them, were enormously greater than those of Germany. It should be added that nothing but the imbecility of the governments of England, France and the United States, due to their dependence on the votes of ignorant and ostrich-like electors, who wanted nothing but a quiet life and would not read the signs of the times nor listen to those who could, made it possible for Germany to re-arm and indulge in a second world war after its defeat in the first. I think it might fairly be said that the main achievement of Western democracy between the two wars was to prevent those who knew what ought to be done from doing it in the economic and the military spheres and in that of international relations.

A consequence of fallacies of this kind is that what may roughly be called 'parliamentary government' has acquired a prestige among peoples who have never experienced it and are most unlikely to be able to practise it successfully, which makes them eager to adopt something that looks like it whenever they emerge from tutelage. We have seen plenty of examples of this in central, southern and south-eastern Europe, and we are now witnessing more and bigger ones in the Near and the Far East. A little later on I fully expect to see a similar result arising from similar causes in connexion with the communist system as practised by Russia and its satellites. It seems to me that the fact is that under almost any imaginable system of government which was not completely imbecile North America would have become one of the wealthiest and most powerful communities in the world. Under almost any imaginable system of government, not completely imbecile, the Russian empire, with its vast and as yet hardly scratched natural resources, will become at least equally wealthy and powerful. In the one case the credit has gone to the system which happened to prevail in North America, in the other it will no doubt go to the system which happens to prevail in Russia. We shall be told, and many of us will believe, that this immense wealth and power is 'due to' communism, just as we have been told and many of us

believe that it was 'due to' democracy in the Western sense. In each case there is very little rational ground for believing that the system of government is much more than a fly on the wheel. Any government which kept internal order over these vast empty rich territories and avoided defeat and invasion, and which either allowed individuals or companies to exploit the natural resources or undertook that exploitation itself on a large scale, would secure much the same spectacular results in these exceptionally favourable conditions.

I will consider one other causal fallacy, which often leads to governments or individuals being unfairly blamed or extravagantly praised. Suppose that there is a critical situation in which a government or a leading statesman has a choice of one or other of a comparatively few practically possible alternative courses of action, *A*, *B* and *C*, including among these the possible alternative of doing nothing and letting events take their course. Alternative *A* is chosen, and we will suppose that the state of affairs which ensues is admittedly much worse than that which immediately preceded the decision. Then it is very common to hold that a wrong decision was made, and to blame severely the individual or the government which made it. Now, of course, such a judgment may be justified in some cases. But in most cases a whole nest of fallacies is involved. In the first place, even if a different decision would have had a more fortunate sequel, it does not follow that the maker of the actual decision was blameworthy. Before we can decide this we must know whether, in the situation in which he was placed and with the information which was available to him at the time, he might reasonably have been expected to see that the consequences would be much worse than those of some other alternative which he might reasonably have been expected to contemplate as possible. The mere fact, if it be a fact, that *we* can see all this *after* the event may have very little bearing on this question.

Secondly, the mere fact that the state of affairs which followed the choice of alternative *A* was much worse than that which preceded it is not sufficient evidence that the decision was mistaken. It may be that the ensuing state of affairs would have been much worse than the preceding *whichever* of the alternatives had been adopted, and that the results of adopting any other would have been still worse than those of adopting *A*. Men find it very hard to admit that there are situations in which *all* possible alternative developments will be changes for the worse, and where the wisest decision that can be made will do no more than minimize the inevitably ensuing evil. Suppose that we tacitly and unjustifiably assume that there are no such situations. Then we shall automatically conclude that there *must* have been some alternative open to

the maker of the decision which would have averted the evils which in fact ensued and would not have been followed by still greater evils. And so we shall judge that the actual decision was mistaken. But there is no reason whatever to accept this premiss, and therefore there is no reason to accept any such judgment as a conclusion from it.

It is on such grounds as these, e.g., that the decision of the British Cabinet to go to war with Germany in 1914, or the agreement made by Mr. Chamberlain with Hitler at Munich, has been confidently asserted by many persons to have been unwise and to have redounded to the discredit of those concerned. Naturally, I express no opinion here on the *truth* or *falsity* of these judgments. What I do contend is this. Most of those who make them with so much confidence have not begun to realize how many questions would have to be raised and settled before they had a shadow of justification for their assertions. Moreover, some of these questions can never be answered even approximately, for they involve conjectures about the consequences which would have followed if other alternatives had been chosen.

The last fallacy that I shall consider is of a very different kind. It is more trivial than those which I have noticed above; but it is so common and has such an inhibiting effect on many worthy persons that it seems desirable to mention and expose it. It is this. A citizen of country *A* condemns some contemporary public action or institution in another country *B*. Thereupon a fellow-citizen gets up and says 'We did the same', and produces in support of his assertion some public action which was taken or some institution which existed at some time in the history of their common fatherland. This is supposed by many to provide some kind of answer to the criticism on this action or institution in the foreign country. At any rate it is often felt to be relevant and embarrassing by the critic himself, and the fear that such remarks might justifiably be made often prevents scrupulous persons from condemning publicly incidents or institutions in foreign countries which they cannot but deeply disapprove in private.

It is obvious that there must be a number of suppressed premisses at the back of such an argument, and when one tries to make them explicit one sees that it is so hopelessly confused that nothing coherent can be made of it. I think we should all admit that a person ought to feel, and very often will feel, uncomfortable if it can be shown that at the same time he strongly condemns *x* and approves or tolerates *y* when the only relevant difference between *x* and *y* is that the former occurs in a foreign country and the latter in his own. Even this, however, would not show that he is mistaken in condemning *x*. The fact that a man is inconsistent in

his judgments or his emotions does not show that a particular one judgment is false or a particular one emotion is misdirected. Sin is not less sinful when it is Satan who condemns it; and he has the advantage of expert knowledge. But suppose, as is very often the case, that a man not only condemns x in the foreign country but also quite consistently condemns similar actions and institutions in the history of his own country. Why on earth should the fact that something similar to what he condemns in another country exists or has existed in his own be thought to show that it is not worthy of condemnation? And, if he equally condemns similar acts or institutions in the history of his own country, why on earth should he feel embarrassed or diffident in publicly condemning them when they exist in a foreign country? Is bestial cruelty in contemporary Russian labour-camps any less evil because there was bestial cruelty in English slave-ships in the eighteenth century? And must an Englishman, who deplors that incident in English history and whose ancestors abolished that evil after a long and arduous Parliamentary struggle, hang his head in embarrassed silence and refrain from calling slavery and cruelty by their name when practised on a vast scale by foreign countries which claim to be the moral leaders of mankind?

I have assumed so far, for the sake of argument, that there really is something in one's own country which is closely or exactly parallel to that which one condemns in another country, and I have shown that even on that assumption this method of rebutting or silencing criticism is logically worthless. But in nine cases out of ten the alleged parallel will not survive a moment's critical inspection. Often it is merely verbal, as it would be, e.g., if one said that England made use of concentration camps in the latter stages of the Boer War and therefore Englishmen have no right to criticize the use of concentration camps by Germany or Russia. Often the only parallel which can be found to a present-day practice in a foreign country is something which formerly existed in one's own and has long since been abolished there by the efforts of reformers and is now condemned by everyone. Any attempt, e.g., to regard the harsh treatment of factory workers and of paupers in England in the early nineteenth century as a relevant parallel to present-day slave-labour in Russia and its satellites would be open to this criticism. The upshot of the matter is that I should advise anyone to whom this kind of argument is addressed either to pay no attention whatever to it or to answer the fool who uses it according to his own folly.

It is time for me to bring my paper to an end. It is not a cheerful paper, for I do not find mankind in their social and political relationships a cheerful subject to contemplate. Gibbon, who knew

something of history, described it as mainly a record of the crimes, the follies, and the misfortunes of mankind. I see no reason to think that it will be fundamentally different in this respect in future from what it has been in the past. I suspect that there will always be, as there have always been, relatively infrequent and not very persistent oases of prosperity and culture in a desert of penury, ignorance and unthinking brutality. And at every stage any experienced and intelligent statesman will have occasion to repeat Axel Oxenstierna's words to his son: 'Behold, my son, with how little wisdom the world is governed!'

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