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### THE RELEVANCE OF PSYCHICAL RESEARCH TO PHILOSOPHY

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*Introduction.* 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,

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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 mousetrap 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

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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

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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

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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

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

(I) 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.

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(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 experiment 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

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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 unlikeliness 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



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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 connection 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 connection 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

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continually operating in the background of our normal lives. Our understanding 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 connection 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 connection 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

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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<sup>35</sup> 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 behaviourist 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 cognition 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

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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 autoscopy 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. 44) 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

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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 would 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

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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 fact 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 Principle 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* raise 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

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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 happened 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 telepathically 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.

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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 connection 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



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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 paramornal 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

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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 communication, 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

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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 extra-ordinary 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.