

VII

THE NOTION OF 'PRECOGNITION'

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I will begin by offering a few selected cases which, between them, illustrate some of the various forms of the phenomena which I intend to cover by the phrase 'ostensible precognition'. They are well enough attested to be worthy of serious consideration, but I am not concerned here primarily with questions of evidence. The cases may be divided into 'Experimental' and 'Sporadic'. I will begin with the former.

EXAMPLES

Experimental

As my one example I will take Dr. Soal's experiments on card-guessing, with Mr. Shackleton as guesser.¹ The essential points are these. Shackleton knew that the 'telepathic agent', on each successive occasion in the course of an experiment, would be looking at a picture of one or another of a certain five different animals, the names of which were already known to him. On receiving a signal he would record in writing the initial letter of the name of the animal which he guessed the agent to be looking at then. The order in which the various picture-cards was presented to the agent for inspection was random, and the interval between successive presentations was about 2.5 seconds. The experiments were conducted in runs of twenty-five, with an interval between each run.

Now the initial letter written down by the guesser on the n th

¹ For details, see S. G. Soal and F. Bateman, *Modern Experiments in Telepathy* (London: Faber, 1954).

occasion may happen to be the initial letter of the symbol presented for inspection to the agent on the n th occasion. If so, we may say that the guesser scored a 'direct hit'. On the other hand, it may happen that the nearest occasion on which the card looked at by the agent has on it the animal whose name begins with the letter written down by the guesser on the n th occasion, is the $(n - p)$ th, or, alternatively, that it is the $(n + q)$ th. On the first alternative we should say that the guesser on the n th occasion had scored a '- q -back-hit'; while, on the second alternative, we should say that he had scored a '+ q -fore-hit'. It is obvious that it is + q -fore-hits, and they alone, which are relevant in these experiments to the question of precognition.

Dr. Soal deliberately confined his attention to the following five alternatives, viz. -2 and -1 back-hits, direct hits, and +1 and +2 fore-hits. The question, with regard to each of these alternatives is this: 'Assuming that the order in which the sequence of pictures was presented to the agent was random, did the number of hits of a given kind (e.g. direct hits, or +1 fore-hits) differ significantly from the number most probable on the hypothesis of mere chance-coincidence between picture guessed and picture presented? And, if it did, what were the odds against at least as great a deviation occurring, on the hypothesis of chance-coincidence, within the number of guesses actually made?'

I pass now to the results, so far as they concern +1 fore-hits. Of the thirteen different persons tried as agents there were only three with whom Shackleton scored significantly large deviations in any of the five positions. These were two women, R.E. and G.A., and one man, J.A. I shall here confine my attention to the results obtained with the two women. With both of them there were no significant deviations except in regard to +1 fore-hits.

Taking together all the trials done with R.E. and all those done with G.A. as agent, we have in all 5,799 guesses which *could* have resulted in +1 fore-hits. Of these 1,679 *in fact* did so. On the hypothesis of chance-coincidence the most probable number of such hits is 1,160 to the nearest integer. The excess of +1 fore-hits over the number that is most probable on the hypothesis of chance-coincidence is therefore 519. In calculating the odds against so large a deviation occurring by chance-coincidence, we must, of course, allow for the fact that +1 fore-hits is only one of the five possibilities under consideration. But, even when we allow for this,

we find that the odds, on the hypothesis of chance-coincidence, against getting so great a deviation in one or another of the five positions under consideration, are 2.4×10^{63} to 1. They are about the same as the odds against throwing not less than 82 sixes in succession with a fair die, when one starts throwing and continues until a non-six turns up.

We may sum up these results as follows. There is a not very strong, but extremely persistent, positive association between the nature of Mr. Shackleton's guess on any occasion and the specific nature of the perceptual experience which the agent *will first begin to have a few seconds after the guess has been recorded*, viz. when she shall be presented with a picture *on the next ensuing occasion*. This positive association is not very strong. It is an actual percentage of 28.95 per cent + 1 fore-hits, against the 20 per cent which is most probable on the hypothesis of chance-coincidence. But it is so persistent that the odds against so strong an association persisting as a mere chance-coincidence, in a run of guesses so long as that actually made, are colossal. They are such as to rule out that hypothesis completely. It is for this reason that we say that the results of these experiments seem *prima facie* to establish the occurrence of 'precognition' on the part of Mr. Shackleton.

Before leaving this example, I would like to emphasize the following facts about it:

(i) We have spoken of Mr. Shackleton's activities as 'guessing'. That might suggest that on each occasion he made a special effort to envisage mentally (e.g. by means of an appropriate visual or auditory image) the picture on the card at which the agent was then, or would immediately afterwards be, looking. Any such suggestion would be quite misleading. There is no evidence that the movements of his hand, in writing down now this and now that initial letter, were made in response to any relevant imagery, or were in any way premeditated. And, when we consider the very rapid rate at which the calls were made and the letters written down, it seems plain that what we have called 'guessing' is no more than the almost mechanical writing down of one or another of the five initial letters, without having any conscious reason on any occasion for writing down any particular one.

(ii) What is consciously present to the guesser's mind throughout any such experiment is a knowledge of the general experimental

set-up, and a general intention to try to respond on each occasion with the appropriate initial letter, whatever that may be. It should be noted, however, that what Mr. Shackleton in fact accomplished was *not* what he was consciously trying to do. What he was consciously trying to do was to write down the initial letter of the name of the animal depicted on the card at which the agent was *then* looking. What he in fact accomplished, to an extent far beyond all question of chance-coincidence, was to write down the initial letter of the name of the animal depicted on the card at which the agent *would be looking on the next ensuing occasion*. It would therefore be more accurate, and less question-begging, to describe his performance as '*pre-presentative verbal response*' than to call it 'precognition'.

(iii) In experiments conducted under similar conditions with the agent Mr. J. A., Mr. Shackleton scored a highly significant excess over chance-expectation, not only on +1 fore-hits, but also on -1 back-hits. Roughly the same proportion of his successes was of each of these two kinds. He was thus displaying, in the same run of guesses and to about the same degree, both pre-presentative and retro-presentative verbal response. But he appears to have been quite unaware that he was doing so, or indeed of any introspectable difference between the responses which were in fact of the one kind and those which were in fact of the other.

(iv) Sometimes Mr. Shackleton had a 'hunch' that he was being highly successful, while at other times he felt that he was accomplishing nothing but random responses. It was found that there was no significant correlation, positive or negative, between these subjective impressions and the actual degree of success or failure of a run of guesses.

I have mentioned these four points in order to bring out the extremely behaviouristic character of Mr. Shackleton's performance. This might easily be overlooked, if we were to describe what he accomplished as 'precognition', without further comment.

2. *Sporadic cases*

The case just described is experimental. It may also be called 'quotitative'. What I mean is this. There is nothing at all remarkable in *any particular* guess turning out to be a +1 fore-hit; what is re-

markable is the excess of the *aggregate number* of such guesses over the number most probable on the hypothesis of chance-coincidence. I pass now to cases which are *sporadic* and *non-quotitative*. Here we have a single experience (or, in a few cases, several experiences occurring at irregular intervals in the same person), e.g. a dream or a waking hallucination or a felt impulse to do or to avoid doing a specific action. This experience is highly detailed and peculiar. It is followed, after a fairly short interval, by a single incident or state of affairs, which is also highly peculiar, and which seems to correspond in detail with the earlier experience in a way and to a degree that rules out chance-coincidence.

The reader who wishes to make himself familiar with a collection of cases, well arranged and critically discussed, cannot do better than consult H. F. Saltmarsh's admirable 'Report on Cases of Apparent Precognition' in the *Proceedings of the S.P.R.*² He should also read J. Fraser Nicol's 'Apparent Spontaneous Precognition' in *International Journal of Parapsychology*.³ Here I will merely cite two cases, to indicate the kind of incident which we have to consider.

2.1. *Case of Mrs. Verrall and Mr. Marsh*.⁴ Mrs. Verrall was engaged fairly regularly in automatic writing from March 1901 till 1903. On 11 December 1901 her hand wrote: 'Frost and a candle in dim light. Marmontel. He was reading on a sofa or on a bed—there was only a candle's light. She will surely remember this. The book was lent—not his own. He talked about it.'

Marmontel was not an author with whom Mrs. Verrall was acquainted except by name, and she could make nothing of this. Nor could Mrs. Sidgwick, whom she consulted by letter soon afterwards.

On 17 December, six days later, Mrs. Verrall was disturbed all day by a strong impulse to write. She resisted until 6.30 p.m., when she sat down and allowed her hand to scribble. The script ran as follows: 'Marmontel is right. It was a French book; a memoir, I think. "Passy" may help—"Souvenirs de Passy" or "Fleury". "Marmontel" was not on the cover. The book was bound and was lent. Two volumes in old-fashioned binding and

² *Proc. S.P.R.*, Vol. XLII, 1934.

³ In *Int. J. Parapsychol.*, Vol. III, 1961, p. 26.

⁴ See Mrs. A. W. Verrall, 'On a Series of Automatic Writings'. *Proc. S.P.R.*, Vol. XX, 1906, pp. 331 ff.

print. . . . It is an attempt to make someone remember an incident.'

There the matter rested until 1 March 1902, on which date Mr. Marsh, a friend of the Verralls, came to spend the weekend with them. At dinner he happened to mention that he had been reading *Marmontel*. Mrs. Verrall pricked up her ears. In answer to a question by her, Mr. Marsh said that it was Marmontel's *Memoirs*, and not his 'Moral Tales', which he had been reading. He had *borrowed* the book from the London Library, and had taken the first volume with him to Paris, where he had read it on the evenings of 20 and 21 February, i.e. some ten weeks after the first, and some nine weeks after the second, reference to Marmontel in Mrs. Verrall's script. On both occasions he read it *by the light of a candle*; on the 20th he was reading it *in bed*, and on the 21st lying *on two chairs*. He had *talked about* the book to the friends with whom he was staying in Paris. The weather was *cold*, but *not* frosty. Asked by Mrs. Verrall whether the references to 'Passy' and to 'Fleury' were relevant, Mr. Marsh deferred his answer until he should have returned to his home in London and have had an opportunity to look up the book. On 24 March he wrote from London to say that on 21 February, while in Paris, he had read, lying on two chairs, a chapter in the first volume of Marmontel's *Memoirs*, describing the finding at *Passy* of a panel, connected with a story in which *Fleury* plays an important part. Mrs. Verrall subsequently ascertained that these two names do not occur together anywhere in Marmontel's *Memoirs* except in the passage in question. Mr. Marsh states that he had not read anything by candlelight, lying on two chairs, for months before the occasion when he did so in Paris on 21 February.

There are two remarks worth making on this case. (i) Although the two passages in Mrs. Verrall's script seem plainly, on retrospect, to be correlated with what Mr. Marsh would be doing in Paris some two months later, they did *not* present themselves as referring to the future. On the contrary, they presented themselves in the script as referring to something that *had already happened*, which it was hoped to recall to the memory of someone (whether of Mrs. Verrall herself or of someone else, is not clear). (ii) There are certain minor discrepancies in detail. The weather was *not frosty*, though it was cold. The name 'Marmontel' *was* on the binding. Mr. Marsh had *only one* volume of the book with him in Paris,

though he did read a second volume on his return to London. There were, in fact, three volumes in all in that edition.

2.2. *Case of Mrs. C and the escaped monkey.*⁵ On 29 February 1888 Mrs. C of Holland Road, Kensington, wrote to Myers, describing the following incident which had happened to her in 1867.

She had always had a horror of monkeys, and one night she dreamed that she was persistently followed by one, which terrified her, and from which she tried in vain to escape. Next morning she told her dream to her husband and other members of her family. He advised her to take a short walk with the children in order to get rid of the impression. Quite contrary to her usual custom, she did so, taking with her her children unaccompanied by their nurse. In a narrow lane (Holland Lane) she passed Argyll Lodge, and there saw, on the roof of the coach-house, the monkey of her dream. The monkey began to follow her, he on the top of the wall, and she and the children in the lane below; and she experienced the same terror as in her dream, fearing every moment that it would jump down on them. It did not do so, and eventually she reached home safely, in a great state of agitation. Shortly afterwards she sent someone round to Argyll Lodge to inquire, and was informed that on that morning a very rare and valuable monkey, belonging to the Duchess of Argyll, had got loose. Myers received letters from Mr. C and from Mrs. C's nurse, confirming Mrs. C's story from their own recollections. He was also informed by the Marquis of Lorne that a monkey was in fact kept in the stables of Argyll Lodge at the time in question.

On this case the following comments may be made. (i) No doubt, the psycho-analyst might have his views as to the probable causes of Mrs. C's horror of monkeys. But what has to be explained is the concurrence of that particular dream with that particular incident next morning involving a monkey. (ii) A curious feature is that the occurrence of the dream was a necessary, though not a sufficient, condition of the subsequent events which it pre-figured. For it is almost certain that Mrs. C would not have taken a walk that morning, if she had not had, and reported to her husband, the disturbing dream of the night before.

⁵ F. W. H. Myers, 'The Subliminal Self', *Proc. S.P.R.*, Vol. XI, 1895, pp. 488-9.

SOME COMMENTS ON THE EVIDENCE ADDUCED
FOR PRECOGNITION

The few cases which I have quoted above are intended merely as illustrations. The remarks which follow will be based, not only or mainly on them, but on the varied collection of cases presented in, e.g. Saltmarsh's 'Report', referred to above. We can conveniently consider them under the following three headings, viz. (1) the nature of the allegedly precognitive event, (2) the nature of the allegedly precognized event or state of affairs, and (3) the nature of the correspondence between the two which makes it plausible to hold that the former is a precognition of the latter.

1. *Nature of the allegedly precognitive event*

(i) The allegedly precognitive event may be of many different kinds. In the first place, it need not be an *experience* at all. It may be, as it was in Dr. Soal's experiments with Mr. Shackleton, simply a bit of bodily behaviour, not consciously guided by any relevant thought or image or perception or hallucinatory *quasi*-perception. It is called 'precognitive' only in so far as it turns out to have been such as the individual *would have* performed in the circumstances, *if* he had been aware of certain facts about the future and had been guided by that knowledge. It would be more accurate to describe it as a bit of 'proleptic behaviour' than as a precognition.

Even when the allegedly precognitive event is an actual experience, as it is in most of the sporadic cases, it may be of very different kinds, ranging from a more or less vague emotionally toned impression, through a fairly definite felt impulse to do or to avoid doing some specific action, through imagery (auditory or visual) recognized as such, through dreams (symbolic or imitative), up to full-blown waking hallucinatory *quasi*-perceptions.

Mr. Saltmarsh, in his 'Report', considered all the accounts of alleged cases of precognition received by the S.P.R. in the first fifty years of its existence. There were 349 in all. Of these he rejected 68 altogether, on one ground or another, and was thus left with 281 cases which seemed *prima facie* worth consideration as instances of precognition. He subdivided these into (a) 'good', and (b) 'ordinary'. In order to count as 'good' the experience reported had to be particularly definite and detailed, and the evi-

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dence for its occurrence and for that of the relevant later event or state of affairs had to be more than ordinarily satisfactory. Of the 281 cases worth *prima facie* consideration 134, i.e. 47.7 per cent, reached the standard of 'good', as judged by Saltmarsh.

Now he classified the kinds of experience involved in the various cases under six headings, viz. Dreams, Borderline States, Impressions, Waking Hallucinations, Mediumistic Utterances, and Crystal Visions. For our purpose we can take together the dreams and the comparatively few cases where the experience occurred on the borderline between sleep and full waking consciousness. Together they numbered 123, and of them 80 were 'good'.

We may present the relevant statistical facts in the following contingency-table. In it the figure in brackets in each cell gives the most probable number of the 281 cases which would fall into that cell, on the hypothesis of *complete contingency* between the property of being a dream or a borderline experience, on the one hand, and that of counting as a 'good' case of precognition, on the other:

	<i>Dreams or Borderline States</i>	<i>Other Kinds of Experience</i>	
<i>Good</i>	80 (59)	54 (75)	134
<i>Ordinary</i>	43 (64)	104 (83)	147
	123	158	281

$$X^2 = 25.45 \text{ (with one degree of freedom) } . p = 6 \times 10^{-7}$$

If we calculate from the above table the value of the coefficient of association between being a 'good' case of precognition and being a dream or borderline experience,⁶ we find that it is +0.564. And the high value of X^2 makes it incredible that so high a degree of association should arise by chance between two characteristics which are in fact quite contingent to each other. So it is plain that there is, among those reported cases of precognition which are *prima facie* worth serious consideration, a strong and highly significant association between being 'good' and being a dream or borderline experience.

I do not think that there is anything surprising in this. For a case does not count as 'good' unless the experience reported was definite and detailed and was such as *could* be closely and

⁶ See Yule and Kendall, *Introduction to the Theory of Statistics* (London: Griffin 1958).

unmistakably imitated by a subsequent event or state of affairs in the external world. Now outstanding dreams, of the kind which are likely to be remembered, and to get reported or acted upon, much more often fulfil those conditions than do most of the other kinds of experience considered by Saltmarsh.

I am inclined to think that the fact that so large a proportion of the best evidence for precognition, as regards sporadic cases, relates to dream-experiences, is a serious weakness. The mere fact that dreams are very common, and that most of them are never reported or acted upon, does not particularly matter. For we are concerned here only with those which are sufficiently striking and detailed to be noted and recorded or acted upon very soon after their occurrence. Now these are certainly *not* very common. The weakness is this. One cannot help suspecting that, among such dreams, those which were fulfilled tended, for that very reason, to be submitted to the S.P.R. and similar institutions, while those which were not, tended, for that very reason to remain unpublished. Each of the cases is an instance of an antecedently very improbable concordance between an experience and a later event. If we appeal to the *number* of such cases as a reason for thinking that those concordances are not mere chance-coincidences, we need to be sure that the cases have not been automatically *selected* for attention just *because* they involved such a concordance.

(ii) Whatever may be the nature of the allegedly precognitive event, it does not usually carry with it, for the person in whom it occurs, any *explicit reference to the future*. That it was concerned with something still in the future is generally suspected only later, and often only after a certain event or state of affairs has occurred and has been noted and compared with it.

We have seen, e.g. that Mr. Shackleton took himself to be responding on each occasion to the picture at which the agent was *then* looking. It was only afterwards that it became known that a most improbably large percentage of his responses had in fact corresponded to the picture on which the agent would be focusing on the next ensuing occasion.

When the allegedly precognitive event takes the form of a felt impulse to do or to avoid doing so-and-so, or of an inner voice admonishing or warning one, it does of course explicitly refer to the more or less immediate future. But most other kinds of allegedly precognitive experience, and in particular dreams and

waking hallucinations, have no such reference. When one dreams or has a waking hallucination, the scene, the actors, and the incidents are almost always given to one as *present*. On returning to normal waking consciousness one may, in some cases, find cause immediately to refer the recent experience to the future. There is, e.g. a strong tradition that striking dreams about disasters to persons forebode such disasters. If, then, one has had and remembers such a dream, and can find nothing in one's previous experience to account for it, one is inclined to suspect that it refers to a still future event. Again, the circumstances may be such that a certain kind of dream had in those circumstances will inevitably be taken, on waking, to refer to a certain impending future event. If, e.g. the night before the Derby is to be run one dreams of a horse-race and of a certain horse coming in first, one can hardly fail to refer one's dream to what will happen at Epsom next day. But in a great many cases there is nothing to make anyone suspect that such an experience was precognitive until the event occurred which seems, on reflection, to have fulfilled it.

I will call any experience which turns out to have been *prima facie* precognitive a *pro-referential* experience. If an experience, at the time when it occurred, appeared to the experient to refer to the future, I will call it a *pro-spective* experience. Such an experience may turn out to have been pro-referential, or it may turn out that future developments fail to correspond to it or positively conflict with it. If it should prove to have been pro-referential, we may call it *veridical*; if not, *delusive*. A pro-referential experience which was *not* pro-spective may be called *unwittingly pro-referential*.

(iii) It is illuminating to compare the distinctions which we have just drawn, with those which have to be drawn in the case of *post-cognitive* experiences. Take, e.g. the ordinary visual images which from time to time flit before one's mind's eye. Some of them present themselves as referring to some past event, or to some thing, person, or scene witnessed in the past. These may be called *retro-spective*, and may be compared with pro-spective experiences. Like the latter, they may be either veridical or delusive or contain a mixture of veridical and delusive features. Many of our images, however, do not present themselves as referring to the past; and yet it may be possible, in the case of some of them, to show that they almost certainly do correspond to certain past events, or to certain persons, things, or scenes, witnessed in the past. Such

images may be called *unwittingly retro-referential*, and may be compared with unwittingly pro-referential experiences.

It is worth remarking that, if a person should have frequently had experiences of a certain kind, e.g. dreams about horse-races, which had proved to be pro-referential, he would come to suspect that *any* such experience in his case would be likely to be pro-referential. He would do this on ordinary inductive grounds. And that conviction might eventually tend, through ordinary association, to give to such experiences a pro-spective tinge which had been lacking formerly.

2. *Nature of the allegedly precognized event or state of affairs*

In considering the nature of the allegedly precognized event or state of affairs, it will be convenient to begin by developing a little further the above analogy between pro-referential and retro-referential experiences. In ordinary retrospection of events the event retrospected, whether it actually happened or not, is always presented as an event in the past history of the *retrospecting subject himself*. If what is retrospected be a person, or a thing, or a scene, or a state of affairs, the latter is always presented as something which the retrospecting subject *himself* perceived, or was concerned in, or heard tell of. We may sum this up by saying that the objects of normal retrospection are *autobiographically restricted*. It is also true that in all normal cases where an experience turns out to have been retro-referential, *without* being retrospective, the past event or state of affairs which corresponds to it is autobiographically restricted.

This limitation appears to most people so nearly self-evidently necessary that any apparent exception to it is regarded as highly paradoxical and is treated as *paranormal*. Examples of such alleged retro-referential experiences, *not* autobiographically restricted as to their objects, are those in which a person has images or hallucinatory *quasi*-perceptions which are found to correspond to historical events, persons, scenes, buildings, etc., which had ceased to exist long before the birth of his present body. (A well-known claim to retro-referential experiences which were *not* autobiographically restricted is the theme of the famous book *An Adventure* by Miss Moberly and Miss Jourdain.) So paradoxical do such claims appear that those who accept them often seek to bring such retro-cogni-

tive experiences within the autobiographical limitation, by supposing that the subject existed before the birth of his present body, and witnessed during a previous earthly life the events and scenes which he now retro-cognizes.

Now I think it is true that, in a very large proportion of well-attested cases of ostensible precognition, the future event or state of affairs, which is found to correspond to the experience, is an event in the subject's own later history or is a state of affairs which he will himself witness and perhaps take part in. Cases which do not immediately fall under this heading can often, with a little ingenuity, be brought under it by supposing that what the subject really precognizes is what he will experience or witness when he shall *bear or read of* the future event which corresponds to his precognitive experience. That supposition becomes highly plausible, if it should turn out that the ostensible precognition, though correct in the main, was mistaken in certain details; and if it should be found that the subject never came to witness the events in question himself, but did come to read an account of them which was incorrect in just those details.⁷

But it is certain that there are many alleged cases of so-called 'prophecy' in which the fulfilling event did not happen until long after the prophet's death. Nostradamus, for example, died in 1566. Suppose, for the sake of argument, that the verse in which he seems to be foretelling the flight of Louis XVI to Varennes, and the king's capture there, really was written by him, and that the rather remarkable concordance between the words and the facts is not a mere chance-coincidence. Then the fulfilling event happened some 225 years after the prophet's death.

If we wanted, by hook or by crook, to bring this within the autobiographical restriction, we should have to suppose that the Nostradamus of 1503-66 was re-incarnated, and was again alive in the flesh in 1791. We might then suppose that what the sixteenth-century Nostradamus precognized was not the forthcoming events at Varennes themselves, but was what his eighteenth-century re-incarnation would experience when he should read about them in the newspapers.

Now I do not think that anyone would be tempted to make such a supposition in the case of *prima facie* heterobiographical *pre-*

⁷ For an example, see J. W. Dunne's *An Experiment with Time* (London: Faber, 1939) 3rd ed, pp. 46 ff.

cognition, while I know that one *is* somewhat tempted to make a parallel supposition in the case of *prima facie* heterobiographical *retro*-cognition. The reason for this difference is, I think, this. *Precognition* seems to involve one and the same fundamental *a priori* difficulty, viz. a causal influence of the as yet future on the present, whether it be autobiographically restricted or not. *Retro*-cognition, on the other hand, does not involve any such difficulty of principle. In its autobiographically restricted form it is perfectly familiar to us in the case of ordinary memory, and we account for it causally in terms of 'traces' left on the mind or the brain by past experiences and persisting thereafter up to the present. It is only when it seems *prima facie* to overstep the autobiographical restriction that we feel a difficulty, and we can obviate that by making it really autobiographical in terms of the hypothesis of a previous life in the flesh. Since the fundamental difficulty in admitting *any* kind of *precognition* is not in the least lightened by the hypothesis of a future life in the flesh, there is no motive here for making that hypothesis.

3. *Nature of the correspondence between precognized event and precognitive event*

The kind of correspondence between a later event or state of affairs and an earlier experience or bit of human behaviour, which makes one inclined to say that the earlier is a *precognition* of the later, naturally varies from one class of case to another.

In such experiments as Dr. Soal's the guesser writes down rapidly and almost mechanically on each occasion the initial letter of the name of one or other of a small number of alternatives, which he knows to be mutually exclusive and collectively exhaustive. A hit consists in the letter which he writes down on any occasion being the initial of the name of the picture which the gent *is* focusing on that occasion, *has* focused on a certain earlier occasion, or *will* focus on a certain later occasion. It is only the last of these alternatives that is relevant to *precognition*. And it is not any *one* such fore-hit that is relevant. Correspondence here consists in the actual proportion of hits at a certain assigned distance ahead, in a long run of guesses, exceeding the proportion most probable on the hypothesis of chance-coincidence to a degree which is highly improbable on that hypothesis.

Passing to cases in which the pro-referential event is an actual experience, we may begin with *premonitions*. Here the experience takes the form of a felt impulse, or inner admonition, to take a certain course of action which had not been intended, or to abstain from one which had been intended. Whether this be obeyed or not, there is correspondence provided that the relevant course of events develops in such a way that any normal person in the subject's position would, if he had foreseen it, have wished to behave as the impulse or the admonition had directed.

In cases where the pro-referential experience is an image or a dream or a waking hallucinatory *quasi*-perception there are two possible kinds of correspondence, though both may be mingled in any proportion in a single case. One alternative is that the correspondence may take the form of *resemblance*. The dream or the waking hallucination may be a *quasi*-perception as of so-and-so doing or suffering such-and-such in certain surroundings. And what corresponds may be an actual occurrence at a future date of just such actions by just those agents in just such a scene. The other alternative is that the relationship is *symbolical*. If so, it might be one of a fairly universal kind, as where a dream of a hearse in front of so-and-so's house would symbolize for anyone his death; or it might be peculiar to the experient, depending on his special past experiences and the associations among them. When the correspondence takes the form of *resemblance* we may call the experience *quasi-pre-perceptive*; when the correspondence takes the form of *symbolization* we may call the experience *prefigurative*.

Even when the pro-referential experience takes the form of a *quasi*-preperception of a certain event or state of affairs, which is afterwards realized, it will seldom correspond accurately in all its details. It will generally be supplemented, and often distorted, by features due to the experient's past experiences and acquired associations, his present situation and interests, and so on. When the pro-referential experience is wholly or mainly prefigurative there is, of course, much more room for arbitrary and subjective factors in the correspondence between it and the later state of affairs which it is alleged to have prefigured symbolically.

DEFINITION OF 'X WAS A PRECOGNITION OF Y'

We are now in a position to work towards a definition. It will be more convenient to try to define the phrase 'X was a precognition of Y' than to try to define the word 'precognition'. In reference to what follows I would refer the reader to Professor Mundle's excellent paper 'The Experimental Evidence for P.K. and Precognition';⁸ and also to a paper by myself in the *S.P.R. Journal*,⁹ in which I discuss an earlier contribution by Mr. W. G. Roll, entitled 'The Problem of Precognition' and comments on it by Professor Mundle and others.

We may begin by dividing the conditions, which are severally necessary and collectively sufficient to make it proper to say that 'X was a precognition of Y', into two sets, viz. (1) *positive*, and (2) *negative*. I will take them in order.

1. *Positive conditions*

(i) The first positive condition is that *X* should be *either* (a) a *single* human action or human experience (as in most sporadic cases); or (b) a *sequence*, X_1, X_2, \dots, X_n , of human actions (as in quotitative experimental cases), all realizing one or another of a certain limited set of alternatives, but some realizing some of these, and others realizing others of them. On the first alternative, *Y* will itself be a *single* event or state of affairs, and it may be of any kind. On the second alternative, *Y* will itself be a *sequence*, Y_1, Y_2, \dots, Y_n , all realizing one or another, and some one and some another, of the same alternatives as are realized by the *X*'s.

(ii) The second positive condition is that *Y* shall still have been *future* when *X* was present. This takes a different form according as we are concerned with (a) a *single X* and a *single Y*, or (b) a *sequence of X's* and a *sequence of Y's*. On the first alternative, all that is necessary is that *X* should have taken place at a certain moment t_1 , and *Y* at a certain later moment t_2 . On the second alternative, terms such as X_r and Y_r , which occupy corresponding positions in their respective sequences, are simultaneous with each other. What we are concerned to compare is each successive *X-term*, e.g. X_r , with the *Y-term* which comes an assigned number of

⁸ *Proc. S.P.R.*, Vol. XLIX, 1949-52.

⁹ *Journal S.P.R.*, Vol. 41, No. 711, March 1962.

places *after* Y_r in the Y -series, e.g. Y_{r+p} . And the question is: Do X_r and Y_{r+p} realize the *same* one of the various alternatives, all of which are open to each of them?

(iii) The third positive condition is that Y should correspond to X in one or another of the various ways which I will mention below. Here, again, we must distinguish between the case of (a) *one single* Y and *one single* X , and (b) a *sequence* of Y 's and a *sequence* of X 's. We may cover both these cases by saying that the later event or state of affairs must correspond to the earlier in such a way that the later can be described as *fulfilling* the earlier. We can then distinguish the two cases by speaking respectively of *singular* and of *statistical* fulfilment.

Singular fulfilment would cover, e.g. the following kinds of correspondence between Y and X : (a) X is a felt impulse or an inner admonition to act or to abstain from acting in a certain way; and Y is a later event or state of affairs such that any normal person in the agent's position, if he had foreseen it, would have wished to behave as the impulse directed. (b) X is a dream or a waking hallucination as of perceiving such and such an event or state of affairs; and Y is exactly or predominantly such an event or state of affairs, which later came to pass. (c) X is a mental image or a dream or a waking hallucination; and Y is a later event or state of affairs such that X symbolically prefigured it.

Statistical fulfilment consists in there being a very substantial excess in the *actual* proportion of X_r 's which are hits on Y_{r+p} 's over the proportion most probable on the hypothesis that such hits are merely chance-coincidences.

2. *Negative conditions*

What we have to consider under the head of 'negative conditions' is any circumstance under which we should *not* be prepared to say that X is a precognition of Y , even though all the positive conditions were fulfilled. The *absence* of each such circumstance is a negative condition for X to be a precognition of Y .

(i) The first negative condition is that it should not be a mere *chance coincidence* that X was followed by an event or state of affairs Y , so correlated with it that Y counts as a fulfilment of X .

(ii) In order to state the second negative condition it will be convenient to proceed as follows. Suppose that Y certainly was

so correlated with X as to count as a fulfilment of it; and suppose, further, that we were quite certain that the occurrence of such a Y , after such an X had happened, was not a mere chance-coincidence. Under what circumstances should we still be inclined to deny or to doubt that X was a precognition of Y ?

If the admitted facts of a case of ostensible precognition could be certainly or plausibly explained in any one, or any combination, of the following ways, we should decline or hesitate to call it a case of *genuine* precognition. The alternative explanations about to be mentioned have been listed by careful writers on precognition, such as Mrs. Sidgwick, Saltmarsh, and Mr. Fraser Nicol. They may be divided into (*a*) those involving nothing but *normal* factors; (*b*) those involving factors which are *abnormal*, but not *paranormal*; and (*c*) those involving *paranormal* factors.

Under (*a*) come cases where the fulfilment might be due to the subject's own voluntary action, or to auto-suggestion, or to suggestions conveyed to him normally by others. Under (*b*) come cases where the fulfilment might be due to one or other or both of the following causes, viz. (α) the acquirement by the subject of relevant data through an abnormal acuity of his ordinary senses; and/or (β) the possession by him of abnormally developed powers of subconscious reasoning, of numerical calculation, or of non-inferential bodily adaptation, applied by him to the data at his disposal.

The contents of (*c*) are, naturally, a very mixed bag. They range from explanations in terms of well-attested paranormal powers, exercised by ordinary persons in the flesh, to explanations which postulate the existence and operations of surviving spirits of dead men, or of non-human intelligent beings (embodied or unembodied), and which ascribe to these almost miraculous powers of cognition and action.

An example of the least spectacular kind would be any case of ostensible precognition by A of an action subsequently performed by B, which might plausibly be accounted for by supposing that B had already formed a conscious or unconscious intention to perform that action, and that A became aware of that intention by simultaneous telepathy. Another conceivable explanation, in terms of telepathy, which might apply to a case where A ostensibly precognizes an action subsequently performed by B, would be this. We might suppose that A had unwittingly formed the inten-

tion that B should perform such an action, and that this unconscious desire of A's acted telepathically on B as a kind of hypnotic suggestion.

To go rather farther, suppose we were prepared to accept clairvoyance as a well-attested paranormal accomplishment. Then some cases of ostensible precognition might plausibly be explained by supposing that the subject had unconscious clairvoyant awareness of certain contemporary physical events and states of affairs, and that he unconsciously inferred from this and from his knowledge of the relevant laws of nature that certain physical developments would take place. Venturing still farther into the preposterous, we might ascribe to the subject telekinetic powers, whereby he could act, without using his hands or other limbs, on remote bodies, including, perhaps, the brains and nervous systems of other men. On that assumption many cases of ostensible precognition might be explained by ascribing the fulfilling event to the subject's unconscious telekinetic action.

So far I have confined myself to examples of paranormal explanations of ostensible precognition which do not postulate the existence of any intelligent agents other than ordinary human beings in the flesh. But suppose one holds that there is good evidence that certain human beings have survived bodily death and that they can communicate through mediums. Then, if a prediction as to the future action of someone still alive in the flesh were to be received through a medium in the form of an ostensible communication from the surviving spirit of a certain deceased human being, and if it were to be fulfilled, that might quite plausibly be explained on the following lines. One might suppose that the living person in question had already subconsciously formed an intention to act in the way predicted; that the surviving spirit was telepathically aware of that intention, and had inferred in the normal way that it would probably be carried out; that the prediction was simply a communication to the sitter, through the medium, of the conclusion of that inference; and that the fulfilment was due simply to the person concerned carrying out his intention in the normal way.

I have now considered a number of different lines on which one might try to explain a case of ostensible precognition. Just in so far as any such explanation of a case was held to be plausible, it would be held to be *doubtful* whether it could properly be counted

as a case of *precognition*. The question now is this: Can all such explanations be brought under a single head? If so, we may take the denial of the possibility of any explanation falling under that head as the second negative condition which a case must fulfil if it is to count as a case of *precognition*.

Now I think that all such explanations as we have been considering do fall under one certain heading. I will consider first the case where X is a single event, and Y is a single later event or state of affairs which fulfils it. After that I will deal with the case where X and Y are sequences of events, and where the fulfilment is statistical.

When we are concerned with a *single* X , and a *single* later Y which fulfilled it, all the explanations can be brought under the following head: *Either* (a) X contributed (whether immediately, or through an intermediate chain of effects which were also causes) to cause a later event Y , of such a kind as to count as a fulfilment of X ; or (b) though X did *not* contribute to cause Y , there was an event or state of affairs W , earlier than both X and Y , which contributed to cause first X and then later on such a Y as would count as a fulfilment of X . On the first alternative, we may say that there is a *single causal chain*, in which X is a cause-factor in an earlier link and Y is an effect-factor in a later link. On the second alternative, we may say that there are *two causal chains, diverging from a common link in which W is a cause-factor*; that X is an effect-factor in a later link in one of them (say C_1); and that Y is an effect-factor in a still later link in the other (say C_2).

Our second negative condition, where we are concerned with a *single* X and a *single* fulfilling Y , would therefore be the *denial* that any such explanation is possible in the case in question. It may be stated as follows: The occurrence, after X , of such an event or state of affairs as Y , *cannot* be explained, either (a) by X having been a cause-factor in a causal ancestor of Y , or (b) by X and Y being causal descendants, in different lines of causal ancestry, from a common ancestral cause-factor W .

Let us now consider the case where X is a *sequence*, $X_1, X_2, X_3, \dots, X_n$, and Y is a *sequence*, $Y_1, Y_2, Y_3, \dots, Y_n$; and where the fulfilment is *statistical*. Those who wish to exclude *precognition* have got to explain, on the same general principles as above, the fact that the proportion of X_r 's which are hits on Y_{r+p} 's exceeds the proportion most probable on the hypothesis of

chance-coincidence to a degree which is highly improbable on that hypothesis.

Explanations on the above lines would take the following alternative forms. (a) We might suppose that either *each* X_r , or an *appreciable proportion* of X_r 's, influence (whether immediately or through a chain of intermediate causes and effects) the nature of Y_{r+p} , in such a way as to make it tend to conform to X_r . (If that influence be exerted by *each* X_r , it is plain that it must be weak enough to be overcome in the case of many of them. If, on the other hand, it be exerted by *only some* of them, we may suppose it to be as strong as we like, provided that the proportion of such effective X_r 's be not too great.)

(b) Instead, we might suppose that the two members, either of *each* couple X_r and Y_{r+p} or of an *appreciable proportion* of such couples, are causal descendants, in different lines of causal ancestry, of a common causal ancestor W_r (different for each such couple); and that W_r tends to produce first an X_r of a certain kind and in the one causal line, and later a Y_{r+p} of *the same kind* in the other causal line.

So the second negative condition, where we are concerned with *sequences* and *statistical* fulfilment, is that *no* explanation on the lines of either (a) or (b) is possible in the case in question.

Subject to the above detailed explanations, we may state the second negative condition roughly and briefly as follows. The fulfilment cannot be explained *either* (a) by the later event being a causal descendant of the earlier one, *or* (b) by their being both causal descendants, in different lines of causal ancestry, of a common causal ancestor.

3. *The definition*

We are now, at long last, in a position to define the statement 'X was a precognition of Y'. The definition would consist of the following five clauses:

(i) X was either (a) *a single human action or human experience*; or (b) *a sequence of human actions*, X_1, X_2, \dots, X_n , all realizing one or another of a certain limited set of alternatives, and some realizing some, and others realizing others, of these. In case (a) Y was a *single* event or state of affairs of *any kind*. In case (b) Y was a *sequence*, Y_1, Y_2, \dots, Y_n of events or states of affairs, all realizing

one or another, and some one and some another, of the same alternatives as are realized by the X 's.

(ii) In case (a) X happened at a certain earlier moment t_1 , and Y at a certain later moment t_2 . In case (b) terms, such as X_r and Y_r , which occupy corresponding positions in their respective sequences, are simultaneous with each other. What has to be considered, in relation to a typical term X_r in the X -sequence, is the term Y_{r+p} , which comes an assigned number of places ahead of Y_r in the Y -sequence. And the question is whether X_r and Y_{r+p} do or do not realize the same one of the various alternatives open to each of them. If and only if they do, we say that X_r was a *fore-hit* on Y_{r+p} .

(iii) In case (a) Y corresponded in detail to X , in one or another of the various ways appropriate to the various forms which X may have taken, so that we should say that Y was a *fulfilment* of X . In case (b) the Y_{r+p} 's in the aggregate corresponded to the X_r 's, in that the *actual* proportion of $+p$ fore-hits *exceeded the proportion most probable on the hypothesis of chance-coincidence* to an extent which is highly improbable on that hypothesis. Here we talk of *statistical fulfilment*.

(iv) In case (a) it was *not a mere chance-coincidence* that X was followed by a Y , so correlated with it that Y counts as a fulfilment of X . In case (b) it was *not a mere chance-coincidence* that the proportion of X_r 's which were hits on Y_{r+p} 's should have so greatly exceeded the proportion most probable on the hypothesis of chance-coincidence.

(v) Finally, the occurrence in case (a) of a Y , so related to X as to be a fulfilment of it, *cannot* be accounted for, either (α) by X being a cause-factor in a causal ancestor of Y , or (β) by X and Y being both causal descendants, in different lines of causal ancestry, of a common ancestral cause-factor W . And, in case (b), the occurrence of so improbably large an excess over chance-expectation in the proportion of X_r 's which are fore-hits on Y_{r+p} 's *cannot* be explained by appropriate hypotheses on the lines of (α) or (β) above.

DIFFICULTIES IN THE WAY OF ADMITTING PRECOGNITION

Having defined the statement that X was a precognition of Y , we are now in a position to consider the difficulties which have been

felt to lie in the way of admitting the existence of precognition. These may be divided into (1) *Empirical*, and (2) *A priori*. The latter seem to me to be much the most interesting and important. I will take the two in turn.

1. *Empirical*

Even if there be nothing impossible in the very notion of X being a precognition of Y , as defined above, it would evidently be extremely difficult to be sure that any alleged case, however well attested, really answered to the definition. The practical difficulties arise in connection with the two *negative* conditions, stated in clauses (iv) and (v) of the definition.

In the first place, there is no objectively valid criterion for deciding whether an antecedently improbable sequence of one event on another was so unlikely that it cannot reasonably be regarded as a mere chance-coincidence. Take, e.g. Mrs. C's fulfilled dream of being pursued by a monkey. It is an extremely rare event for a monkey to be loose at any time in any street in London. It is a fairly rare event, even for a person who has a morbid dislike of monkeys, to have so impressive a dream of being pursued by one that she mentions the dream next morning and is advised to take a walk to dispel the unpleasant impression. It is a most extraordinary coincidence that such a rare event as a monkey being loose in a London street should have happened, on just the morning after Mrs. C had dreamed of being pursued by a monkey, and in just the street in which she was taking a walk. Many people will find it impossible to regard this as a mere chance-coincidence; many will find no difficulty in doing so; and, once they are agreed as to the relevant statistical frequencies, there is no further room for rational argument between them on the point at issue.

Suppose, however, that one *is* persuaded, in regard to a certain case, that the sequence of such a Y on such an X was too improbable to be a mere chance-coincidence. Then one is faced with a second difficulty. It is impossible to be sure that *no* explanation, on the lines ruled out by clause (v) of our definition, could be given in terms of normal, abnormal, or the wildest kinds of assumed paranormal powers, on the part of persons still in the flesh, or of the surviving spirits of dead men, or of supposed non-human rational beings.

It may be objected that no sensible person need hesitate to exclude explanations on the lines ruled out by clause (v), if these have to resort to postulating paranormal powers for the like of which we have no independent evidence, or entities in the existence of which we have no independent grounds for believing. The fact that some quite sensible persons *do*, nevertheless, put forward such explanations is undoubtedly due to their holding, explicitly or unwittingly, that there is an insuperable *a priori* objection to the very notion of precognition. Suppose that one holds that view, and suppose that one is convinced that there are well-attested cases of ostensible precognition which are not just matters of chance-coincidence. Then there is nothing for it but to explain them, by hook or by crook, on the lines ruled out by clause (v); and to swallow any factual assumptions, however fantastic, that such an explanation may require. So we may pass now to the *a priori* difficulties.

2. *A priori*

I think that there are two theoretical difficulties which have been held to inhere in the very notion of precognition. It is likely that they have not always been very clearly distinguished. I will describe them as (i) the *Epistemological Difficulty*, and (ii) the *Causal Difficulty*. I believe that the first is illusory, and the second is very serious indeed. I will now consider them in order.

(i) *The alleged Epistemological Difficulty*. The alleged epistemological difficulty may be put as follows. A *precognitive* experience would, from its very nature, be, or would involve as an essential factor, a *present* state of *direct acquaintance* with a *still future* event or state of affairs. But at the time when the allegedly precognitive experience was occurring there *was not as yet* any such event or state of affairs to be its object; and at the time when that event or state of affairs came to be there was *no longer* that experience. So nothing could possibly fulfil the requirements of a genuine precognition.

I think that this objection rests on the following two assumptions, viz. (a) that precognition, if it were possible, would be epistemologically of the nature of *perception*, i.e. that it would be quite literally '*pre-perception*'; and (b) that an ordinary perception is a state of *direct acquaintance with* the thing or event or state of affairs

of which it is said to be a perception. Neither of these assumptions is tenable.

As regards (a), it is probably true that most experiences which have turned out to be *prima facie* precognitive have resembled perceptions, at least in the respect that they were *intuitive*, and not merely discursive, in character. A minority of them have been waking hallucinatory *quasi*-perceptions, in which the subject had an experience as of seeing such and such things and persons and events, as of hearing such and such sounds, etc. And a majority of them have been dreams, in which the dreamer's experience is essentially similar in kind to hallucinatory *quasi*-perception in the waking state. And many, which were neither waking hallucinatory *quasi*-perceptions nor dreams, at any rate involved as an essential factor the immediate awareness of a *mental image*, visual or auditory, recognized as such at the time.

Now a person may have a dream, or a waking hallucination, which can be shown to correspond very closely to a certain scene and certain events in it which he witnessed in the *past*. No one, in *that* case, would be inclined to say (except in an admittedly metaphorical sense) that the experient had a *post-perception* of the past scene and the past events. Again, if a person now has a mere visual or auditory image, recognized by him as such, and if this were found to correspond very closely to something which he had seen or heard in the *past*, we should be even less inclined to call his present image-experience a *post-perception*. If we did so, we should admittedly be talking metaphorically.

Now, to say that a waking hallucination or a dream or an imaginal experience was 'fulfilled' is to say neither more nor less than that a certain *later* event or state of affairs was found to correspond to it in the kind of way in which a certain *earlier* event or state of affairs is often found to have corresponded to such an experience. Since, in the latter case, we should not think of regarding the experience as *literally* a post-perception of the corresponding past occurrence, there can be no reason for regarding the experience, in the former case, as *literally* a pre-perception of the corresponding future occurrence. Of course, there is no harm in talking of it as a 'pre-perception', provided that one understands and makes clear to others that one is using that term *metaphorically*. But, in that case, one is not entitled to draw any of the inferences which might be justified if one were using the term 'pre-perception' literally.

I pass now to (*b*), viz. the assumption that, if an experience is *literally* a perception, then it must be a state of direct acquaintance with the thing or event or state of affairs of which it is said to be a perception.

That this is a mistake can be shown most readily by considering cases where an experience, which is quite literally and correctly described as a perception of a certain event, does not begin until well after that event has ceased. Suppose, e.g. that a gun is fired on a certain occasion, when the air is still and I am at a distance of one mile from it. In due course I shall have an auditory experience of a characteristic kind, which would correctly be described as 'hearing the explosion'. But that experience would not have begun until 4.84 seconds after the event heard had ceased. Suppose, again, that an observer is watching the Sun from the Earth, and that at a certain moment he begins to have an experience which would be correctly described as 'seeing a bright eruption of flame in the neighbourhood of a sunspot'. The event thus seen will have begun some eight minutes before the visual perception of it begins. Suppose, then, that it should last only for four minutes. Then the process perceived as a bright eruption of flame on the sun will have *ceased* four minutes before the experience, which is the observer's visual perception of it, *begins*.

The utmost that can be admitted, then, is that, when one has a perceptual experience, one *uncritically takes for granted* that what one is perceiving is *simultaneous with it*. Since it is certain that in many cases what one is perceiving has ceased to exist *before* the perception of it begins, it is certain that this uncritical taking for granted of simultaneity is often mistaken. Therefore, it cannot be made the basis of a denial in principle that a perceptual experience might *quite literally* be a perception of something which will not begin to exist until after the experience shall have ceased.

The alleged epistemological difficulty, therefore, vanishes in smoke. In the first place, it is very doubtful whether any precognitive experience is *literally* a pre-perception of the event or state of affairs which will in due course fulfil it. And precognition, in so far as it is not literally of the nature of perception, is *epistemologically* on all fours with ordinary non-inferential retro-cognition, which admittedly presents no particular epistemological difficulty. Secondly, even if some precognitive experiences were literally pre-perceptions, no *epistemological* objection in principle could legiti-

mately be based merely on the ground that the object of a perceptual experience *must* exist simultaneously with that experience. For we know, from such examples as I have given, that that is not true.

(ii) *The causal difficulty.* We pass, finally, to what I regard as the really serious *a priori* difficulty, viz. the causal one.

Let us begin by comparing and contrasting (*a*) an ostensible pre-perception (e.g. a waking hallucination, in which the subject ostensibly sees a certain friend knocked down by a certain kind of car in front of a certain shop in a certain street in London, and where, a few hours later, that friend is in fact knocked down by exactly that kind of car in front of that very shop in that same street) with (*b*) an ordinary auditory post-perception of the discharge of a distant gun, or an ordinary visual post-perception of a bright eruption of flame in the neighbourhood of a sun-spot. We at once notice the following profound difference.

In the cases of post-perception, the past event is connected with the present perceptual experience by a *causal chain* of successive events, each an effect of its immediate predecessor and a cause of its immediate successor, initiated by the event perceived and leading up to the event which is so-and-so's post-perception of that event. In a case of pre-perception, if such were possible, there *could* be no analogy to this. *Until* an event, which will answer to the present experience in such a way as to make that experience count as a pre-perception of it, shall happen, *nothing can be caused by it*. Therefore that event *cannot* have contributed, either directly or through a causal chain of intermediate events, to cause the experience which is said to have been a pre-perception of it.

Let us next compare and contrast (*a*) a dream or a waking bit of imagery, which is found to correspond with a certain *past* experience had by the subject or with a certain scene which he has witnessed or taken part in *formerly*, with (*b*) a dream or waking bit of imagery, which turns out to have corresponded with some *later* event or state of affairs, in such a way that we say that the latter 'fulfils' the former. Here we should not call the experience in the one case *literally* a post-perception, and we should not call it *literally* a pre-perception in the other. But the results of the comparison are essentially the same as those which we reached above.

In the case of a *retro-referential* dream or bit of waking imagery, we secure causal continuity by making an assumption of the

following kind. We assume that, when a person has an experience, it sets up a 'trace' in him; that this persists indefinitely (e.g. as a structural modification, or as a continually repeated cyclical process of some kind or other) in some part of his brain or nervous system; that such a trace can from time to time be 'excited' by new experiences, or by internally initiated changes, bodily or mental; and that, when excited, it tends to evoke an experience somewhat like that which initially set it up. No doubt, this kind of story contains a good deal of myth. But it does at least tell us of something which fills the temporal gap between the dead and gone past event and the present experience which refers back to it, viz. something persistent, which the past event contributed immediately to cause, and which now contributes immediately to cause the present experience. The fact that we are willing to swallow so much mythology here shows how strong is the felt need for *some* such causal filling of the temporal gap.

Now, plainly, nothing in the least analogous to this is possible in the case of a *pro-referential* dream or bit of imagery and its fulfilment. We have explicitly ruled out, by definition, the suggestion that it contributes to set up a chain of causes and effects which will eventually produce the event or state of affairs which will fulfil it. And the alternative suggestion, viz. that the *fulfilling event or state of affairs* contributes to set up a chain of effects and causes which contributes to cause the *pro-referential experience*, is plainly nonsensical. For, *until* the event which will answer to the present experience in such a way as to be a fulfilment of it, shall have happened, *nothing* can be caused by it. And, *when* it shall have happened, anything that it may contribute to cause must be *later than it*.

I would like to make it quite clear at this point that the difficulty does not arise from the *purely linguistic* fact that the words 'cause' and 'effect' in English connote that a cause precedes its effect; so that it would be a *contradiction in terms* to talk of an effect preceding its cause. If that were all, we could easily deal with the difficulty by one or other of the two devices which natural scientists and mathematicians have repeatedly used in such circumstances, viz. either by continuing to use the old word, but explicitly giving to it an extended technical meaning to cover the new facts, or by introducing and defining a special new technical term to replace the old word in the new context.

The real source of the difficulty is not linguistic, but is *factual*. It is the self-evident fact that what we call a 'future event or state of affairs' *is* nothing but an unrealized possibility, until it happens or 'comes to pass'; and that which *is not* cannot possibly *do* anything, and therefore cannot be a factor *influencing* anything. Very likely it is this self-evident non-linguistic fact which has moulded the linguistic convention governing the use of words like 'cause' and 'effect', and has thus rendered *self-contradictory* any sentence in which an attempt is made to assert the occurrence of what I may call 'retrogradient causation', i.e. causation of what is now happening by something which has not yet happened.

I think that the essential difficulty tends to be slurred over, if we look backwards from the present moment t_3 to two events e_1 at t_1 and e_2 at t_2 , both in the past. There is then, perhaps, some temptation to say: 'After all, why should not the later event have contributed to cause the earlier, just as an earlier event often contributes to cause a later?' What we have to bear in mind, in face of such temptation, is this. To say that a *later* event influenced an *earlier* one implies that an event, which at t_1 was *still future*, contributed towards determining the occurrence of an event of such and such a kind at t_1 . Now the phrase '*future* event' does not describe an event of some special kind, as the phrase 'sudden event' or 'unfortunate event' or 'historic event' does. Suppose, e.g. that I refer now to my own death as a 'future event'. I am merely saying that *there will some day* be an occurrence correctly describable as 'the death of C. D. Broad'. Until that day shall arrive 'my future death' *is* nothing, and therefore can influence nothing; though, of course, the present *knowledge*, by myself and by others, that there will be such an event in the not very distant future, can and does influence my actions and theirs, on occasions when it is called to mind and is relevant.

It seems to me self-evident, then, that the later event or state of affairs, which is found to 'fulfil' an earlier experience and to make it *prima facie* precognitive, cannot possibly have contributed in any way, directly or indirectly, to determine the occurrence of that experience.

How, precisely, does that create a difficulty in the very notion of precognition? It does not do so at the first move. For (as the reader will see, if he refers back to the definition on p. 185) it is no part of the *definition* of 'precognition' that the fulfilling event or

state of affairs should contribute to determine the occurrence of the experience which is said to be a precognition of it. The difficulty arises at the second move, and it does so in connection with the two negative clauses, (iv) and (v), of the definition.

According to clause (v), the occurrence of the later event Y , so correlated with the earlier experience X as to count as a fulfilment of it, *must not* be accountable for, either (a) by X being a cause-factor in a causal ancestor of Y , or (b) by X and Y being both causal descendants, in different lines of causal ancestry, of a common ancestral cause-factor W . To this we now have to add the self-evident fact (c) that Y cannot have contributed in any way to determine the occurrence of X . So clause (v) of the definition, and the self-evident fact just stated, together entail that, if X is to count as a precognition of Y , there can be no influence, direct or indirect, either of X on the occurrence of Y or of Y on the occurrence of X , and that X and Y cannot both be causal descendants, in different lines of causal ancestry, of a common ancestral cause-factor W .

But this seems *prima facie* to be incompatible with clause (iv) of the definition. For that states that, if X is to count as a precognition of Y , it *must not be a mere chance-coincidence* that X was followed in course of time by a Y , so correlated with it as to count as a fulfilment of it. Now, if there be *no* influence of X on the occurrence of Y or of Y on the occurrence of X , and if X and Y be *not* both causal descendants, in different lines of causal ancestry, of a common ancestral cause-factor, how can the sequence of such an event as Y on the event X be *anything but* a mere chance-coincidence?

CONCLUSION

So far as I can see, then, there could not possibly be a case of genuine precognition, as defined by me. Anyone who thinks that there could be must do one or another of the following three things. Either (a) show that my definition is defective in regard to one or the other or both the two negative clauses (iv) and (v). Or (b) show that there is a sense in which it could properly be said that the sequence upon X of a Y , so related to X as to count as a fulfilment of it, is *not a mere chance-coincidence*, even though X has no causal influence on the occurrence of Y and Y has none on the occurrence of X , and X and Y are not both causal descendants, in

different lines of causal ancestry from a common ancestor W . Or (c) that it *is* intelligible to talk of the occurrence of an event X at t_1 being causally influenced by an event Y , which had not then happened (and therefore was a mere future possibility), and did not happen (and so become actual) until t_2 . (May I add that it would not be enough to cite eminent physicists who talk as if they believe this? What is nonsense, if interpreted literally, is no less nonsense, if so interpreted, when talked by eminent physicists in their professional capacity. But when a way of talking, which is nonsensical if interpreted literally, is found to be useful by distinguished scientists in their own sphere, it is reasonable for the layman to assume that it is convenient short-hand for something which is intelligible but would be very complicated to state in accurate literal terms.)

Suppose, however, for the sake of argument, that I should be right in thinking (a) that my definition of 'X was a precognition of Y' makes explicit what most people have at the back of their minds when they use, and when they hesitate or decline to use, that phrase; and (b) that nothing could possibly answer to *all* the clauses of that definition. Then, when we are talking carefully, we shall have to confine ourselves to the phrase '*ostensible* precognition', and to bear in mind that no case of ostensible precognition can possibly be one of genuine precognition.

That, however, will do no harm to us who are concerned with psychical research. The important thing to get out of our minds is that, if there were precognition, it *must* be of the nature of *pre-perception* of the future fulfilling event or state of affairs; and that if it be of the nature of perception, it must, for that very reason, be a state of present *direct acquaintance with* the as yet future fulfilling event or state of affairs. Both parts of this assumption are certainly false, and they are the source of many pseudo-problems which bedevil the subject.

Having rid ourselves of that superstition, we shall be left with clearer minds for dealing with any well-attested cases that may fairly be counted as cases of *ostensible* precognition. These will be cases where (a) the kind and degree of correlation between the earlier X and the later Y is so great that we hesitate to regard it as mere chance-coincidence, and (b) there is no plausible causal explanation of it in terms of generally admitted normal human capacities, even when present to an abnormal degree of sensitivity

and efficiency. All such cases will remain of great interest and importance to the psychical researcher. It will be his business, with the aid of any other scientists who are willing to help him, to suggest causal explanations, in the first instance in terms of *paranormal* powers which are already admitted or strongly suspected to exist in some human beings alive in the flesh, and to have manifested themselves in phenomena *other than* ostensible precognition.