

PRECOGNITION AND TIME

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INTRODUCTION

In studies of paranormal phenomena, those that can be called contemporary are usually the ones to be first examined. Thus, in either experimental projects or surveys of spontaneous cases, telepathy and clairvoyance are the phenomena of initial concern. Studies of apparitions, again, assume that if anything is happening at all, it is happening now. Precognition tends to be examined and discussed as a special case. One reason for this is that it is usually implied that precognition poses particularly difficult theoretical questions. In fact, because of the temporal effect, how can it possibly occur? Yet paranormal phenomena as a whole seem to pose exactly this same theoretical question—a question to which there really is, as yet, no satisfactory answer.

It might possibly be useful to consider precognition as the primary paranormal process. Or more correctly, if a theoretical framework can be suggested that could account for precognition, it might also be useful in understanding all other paranormal experiences. An important exercise is to attempt a survey of precognitive experiences. Parallel surveys (e.g., Tyrrell, 1942, MacKenzie, 1971) have been made in the field of apparitions. They can show trends and tendencies not generally known and sometimes, in fact, at a marked variance with standard beliefs. The real ghost, for example, possesses important differences from the ghost of fiction.

The present study has used four sources of precognitive experience. They each present material collected in different ways and, therefore, the four together might form a representative cross section.

First, in chronological order, there are 48 of the experiences described by Dunne in the 1934 edition of his *An Experiment with Time*. These 48 include 22 of his own experiences and 26 he obtained from other people. The second source comprises 30 of the experiences described by Lyttelton (1937) in *Some Cases of Prediction*. These experiences were mostly reports sent to Lyttelton after she had given a

radio talk in 1934 on the subject, and requested listeners' experiences. Third, 29 experiences are described by Saltmarsh (1938) in *Foreknowledge*. This publication was based mostly on an analysis of precognition experiences reported over the years to the Society for Psychical Research. The last source, producing 41 experiences, was Barker's (1967) paper on "Premonitions of the Aberfan disaster." This consisted of precognitions of that disaster sent in response to a newspaper request a week later. All the cases deriving from Lyttelton, Saltmarsh and Barker have some sort of confirmation. Typically this means that the experiencer told someone of his experience before the event occurred and the witness confirmed this in writing. The total of 148 experiences are not the grand total described by the four writers. I have used only those where the time between the precognition and the event was given. In the Lyttelton and Saltmarsh series, there are some subjects reporting more than one experience, and in these cases, I have taken only one experience per subject.

CHARACTERISTICS OF THE PRECOGNITIVE EXPERIENCE

1. *The conditions of occurrence*

Saltmarsh (1938) found 349 cases and he retained 281 that he thought particularly worthwhile. Of these 281, 116 referred to dreams and 7 to experiences in the borderland between waking and sleeping. Of the remaining 158 experiences, 57 occurred during mediumistic procedures that may well have involved altered states of consciousness. Therefore, it appeared that the dream is the most common vehicle for the precognitive experience.

In fact, in all the series studied (Dunne, Lyttelton, Saltmarsh, Barker) the dream is clearly the most common vehicle of the precognitive experience. Out of the total of 148 precognitive experiences considered here, 109 (74%) occurred in dreams. L. E. Rhine's survey (1961) also showed the dream to be the typical precognitive vehicle.

This can be linked with another point. It has been noted that in Saltmarsh's series, a large number of the non-dream precognitive experiences occurred under mediumistic conditions where altered states of awareness would likely be present. The remaining 101 experiences were made up of 62 that can best be described as hallucinatory (usually visual) and 39 described as "impressions." These hallucinations, apart from their temporal precognitive connotation, are very similar to those described in studies of ghosts and apparitions. A common finding in such studies is their occurrence in relaxed and quiet conditions. MacKenzie (1971) in his series found they usually occurred in condi-

tions when the outside world was in a sense excluded. They usually happened to a person in his home when he was in a relaxed state. If outside, only a few people were about. He found only one experience in an office and one in a bar. In any event, both occurred under conditions of quiet rather than under the usual conditions associated with such places.

Therefore, it would appear that the precognitive experience, like that of the apparition, usually occurs when awareness is, in a sense, withdrawn from the outside world. The main difference is that with the precognitive experience, the dream predominates over the waking incidents. But, of course, studies of apparitions concern themselves only with the waking, hallucinatory type of experience. To dream of either a dead or a living person would not be considered remarkable—it is only when apparent precognition occurs that interest is aroused. This point and the associated observation that the dream can be considered a particular kind of hallucinatory experience will be examined later.

2. *Personality and Psychopathology*

The question of psychopathology is important. Suggestions have been made with regard to links between personality, ESP test performance and the experience of apparitions. With regard to the latter, it has been suggested that those who are generally more relaxed and passive are the most prone to such experience (a condition, it is worth noting, rather at variance with the "experimental" ESP situation). With regard to the question of psychosis, the experience of apparitions and precognitions is predominantly visual and, therefore, unlike the schizophrenic hallucination which is typically of an auditory nature. If these visual experiences have any similarity with psychotic states it must be with organic ones, but as the resemblance ends there it is not worth considering further. There is the visual hallucination, disputed as such, that can occur in hysteria. This may be of some relevance as mediumistic phenomena, trance states, automatic writing and so forth were believed, as long ago as Charcot's time, to be more or less benign forms of the dissociation seen in hysteria. This again recalls the view that ESP experiences, including precognition, occur when awareness is withdrawn from the real world.

Precognition in the sense of a belief in one's capacity to foretell the future occurs in schizophrenia, but the schizophrenic can rarely give details of his predictions. The normal precognition, by contrast, tends to happen as an apparently occasional phenomenon to individuals who may be puzzled and surprised by what has happened to them. It is nor-

mally a very limited experience to the person concerned. It is true that among any series, such as those here, there are accounts from people involved in mediumistic practices. There are others from people who, although not indulging in such activities, report they often have precognitive experiences. But it is quite clear that the bulk of the reports are from people to whom their experiences are a puzzling, isolated event.

3. *Information Value*

But whether a dream or a waking experience, precognitions have other characteristics in common. Like apparitions, they are fleeting and partly because they do not last long, the "message" is at the time vague or ambiguous.

But the lack of clarity in the precognition, tending as it does to occur in the dream, has to be seen in the light of the general problem of understanding dream phenomena. Although reservations must be held concerning the Freudian interpretation of dreams, there seems little doubt that Freud was right in emphasizing how the dream consists of a kaleidoscopic mixing of elements. In dream interpretation, it is usually assumed that these elements are of past events and the mixing is due to whatever motives and needs are involved. The precognitive dream experience occurs within this kaleidoscopic mixing and usually cannot be picked out until the event occurs. This means that the precognitive experience cannot even be examined unless experiences are restricted to items that are unusual in some respect, that can be matched with a dream item.

The vague and ambiguous nature of the precognitive experience, usually an element in a dream, means that more often than not, it is not until the event happens that the match between it and the precognitive experience is apparent. Even if its message is relatively clear, it is not usually specific with regard to time and place. There are, of course, good examples of fairly specific "warnings," but normally it would be difficult to act on the precognitive experience. In this respect, it is interesting to note Barker's comments on the forty plus precognitions of the Aberfan disaster. No one precognition would have given sufficient information to the percipient to locate and warn people of the forthcoming tragedy. Taken collectively, however, all the basic details were, in fact, present. In fact, Barker thought that this feature raised the possibility of an early warning disaster system by systematically collecting people's precognitions and premonitions. But the Aberfan event was not just a tragedy unusual for its large scale; its attendant circumstances were unique. There are, of course, interesting

examples of events apparently altered by action on the strength of an apparent precognition.

Another characteristic feature of precognitive experiences is that relatively unimportant, even trivial events are precognized as frequently as warnings of deaths and accidents. Saltmarsh did observe however, that with precognitions of deaths, the frequency of hallucinatory experiences nearly equalled that of the dream. It is as if the heightened emotional significance in such cases can break through the attentions of awareness. Even so, if precognition does occur, it is notoriously vicarious, and an adequate theory of precognition will have to account for this characteristic.

4. *Temporal Properties*

Precognition experiences tend to be of events soon to come, rather than more distant in time. Although precognitions have been reported of events relatively distant, months or even years away, they are more commonly of events happening in the next few days.

The interval between the precognition and the event varies from less than a day to 20 years. But the incidence of precognition falls off sharply with increasing time; 57 of the 148 experiences (38.5%) apply to the following day but only 14 (9.5%) to the next day after that. This fall-off is progressive and becomes even more obvious if the incidence is expressed, as it has to be, in terms of incidence per day for the interval considered. If the incidence per day at any time interval is compared with the distance in time (expressed as days in each case) the relationship is markedly curvilinear. The incidence per day can be expressed in logarithmic terms as can the distance in time. The product moment correlation coefficient between these logarithmic values is -0.964 ($P < 0.0001$). The relationship is clearly linear.

This result quantitatively confirms that precognition refers to events near in time rather than more distant ones. But the close nature of the relationship between incidence and distance in time might well suggest that this characteristic indicates something fundamental about the nature of precognition.

It is usually accepted (if the validity of the phenomenon is granted) that precognition is a particular kind of paranormal experience which includes telepathy, clairvoyance, apparitions and so forth. To understand one kind might well be to understand the lot. One early finding with regard to contemporary paranormal phenomena (e.g., telepathy, clairvoyance) was the total absence of any relationship between their occurrence and the spatial distance between agent and observer. Workers in the field were particularly interested in seeing if anything

like the inverse square effect was presented. Such an effect tends to be common with physical effects (e.g., light, magnetism) showing that the intensity tends to be inversely proportional to the square of the distance. Here, the expected relationship turns up in terms of temporal distance.

In fact, the present writer (Orme, 1969) has argued that in experimental studies of precognition, the usual statistical methods were inadequate. Typically, in a card guessing experiment, precognition would be studied by examining matches between the guess and the card one ahead rather than the simultaneous one. It was pointed out that there was no evidence to believe precognition was confined to any particular interval. But if all forward (and backward) guesses in a pack were examined, a person's total success percentage can never be more than the chance expectancy. The present result might well suggest that as precognition appears to be closely related to the time interval, it would be possible to use this relationship to calculate theoretically expected values at any temporal distance.

However, this possibility itself emphasizes the need for some concept to explain how precognition can occur and how it does so in a way analogous to physical forces in space. It seems obvious that any explanation of precognition must require a modification of views on the nature of time. The present writer (Orme, 1969) has suggested that time has to be conceived as possessing extensive properties, not simply transitory ones as we usually suppose. An organism possesses temporal as well as spatial organization. Its past and future have permanence in extensive time. Furthermore, just as its bodily spatial organization has an internal communication system, so does its temporal organization. In this way, precognition is communication between a future part of the organism and its present. Obviously, such organization and intercommunication must depend on some temporal analogue to spatial forces and, as noted, the fall-off of power with increasing time would be expected from such an analogy. It is worth noting, in passing, that memory is analogous to precognition and depends on communication between the past part of the organization and its future part. This concept of memory assumes that the brain and central nervous system do not, in some way, store memories. Rather they function by enabling information from the past to be transmitted to the present. Many studies of memory, commencing with the 19th century Ebbinghaus experiments, show the relationship of retention to time to be a logarithmic one, similar to that obtained with precognitive experiences.

Returning to the question of paranormal phenomena in general, it might be that what are generally taken to be contemporaneous phe-

nomena (telepathy, clairvoyance), are in fact, precognitive experiences. Typically, person A at a particular time, time I, believes he has received a message from person B, which is confirmed at a later time, time II. Now it might be that what has really happened is that person A has, at time I, had a precognitive experience of time II.

Stevenson (1970) has published an account of telepathic impressions based on spontaneously occurring cases collected and examined by himself. From his full account it is possible to detail in 33 cases the time interval between the impression and the confirmation (i.e., what is here suggested to be a precognition and its anticipated event). The time range is much smaller, over half the impressions being confirmed within the hour. But this, of course, is the main criterion for distinguishing between telepathy and precognition. Nevertheless, it can be clearly seen that the fall-off in incidence with increasing time has the same characteristic as the precognition experiences. This does, in fact, suggest that they belong to the same class of phenomena.

In the 57 cases in which there was less than one day between the precognition and the actual occurrence, there are no precise data on the length of the interval. These 57 cases were, therefore, proportionately distributed among the intervals of less than one day in terms of the known distribution of the telepathic cases. The relationship is clearly linear and, indeed, the correlation coefficient between the log of incidence in time and the log of distance in time is as high as -0.991 . Such an extremely large coefficient (indicating the two variables have a common variance of over 98%) must show that temporal distance is a major variable in describing paranormal phenomena—and paranormal phenomena of a so called contemporary kind as well as precognition.

In this respect, it is of interest that paranormal phenomena where the link is from the past, rather than the future, also appear to fall in the same pattern. Unlike the ghost of fiction, the number of appearances of a real (if that is the right word) ghost fall off steeply with increasing time since the person's death (see e.g., Lambert, 1971). Now if a ghost is due in some way to the communications of a person through extensive time, from the time he was living to the time of the apparition, his signals will become progressively weaker in a predictable way, with increasing time.

Why can't we precognize more frequently and more accurately? Why do we appear frequently to precognize some trivial event but not some important one?

First, the data suggest that we tend to precognize events that are in the very near future. (Even so, it might still be asked why don't we

precognize an important event to occur in the next day or two?) Second, precognition tends to occur in dreams and it is clear that most of our dreams are not even recalled in waking life. Third, should we recall a dream in which precognition occurs, it is liable, like all dream material, to be vague and ambiguous in regard to the event in question.

These considerations, I think, are also important with regard to the question of determinism. As with precognized events (one can generally be wise after the event), it might be argued that the event is not entirely inevitable and this accounts for some of the vagueness and ambiguity of the precognitions. But on the other hand, some accounts do suggest an inevitability—they occur despite the actions of the precognizer. Barker also suggested, with the Aberfan cases, that although no single case gave enough information to act on, a pooling of the data gave all the essentials, including the place. The only proviso here would have been that the cases, because of the time factor I have described, tend to pile up in frequency only hours before the disaster. By then, it would have been too late to have expected any success at intervention.

Priestley (1964), in an examination of the problem of determinism, felt that it was significant that precognitions tended to be of either trivial or catastrophic events—categories he thought beyond the usual range of individual decision-making.

Even so, this argument still avoids the problem of how at least some of the future appears to be predetermined in what we take to be, theoretically at least, indeterminate. I think that inevitably a concept of extensive time is not sufficient but has to be complemented with the idea that this extension is at least two-dimensional. If we do this, our path, if that is the right analogue, through time, is always one of taking alternatives, where out of two or more possible events, one actually occurs. This variety of paths is, of course, always heading in the same general direction. There must be points where two or more of them cross or join, making alternative choices less likely. Any one or more of the Aberfan victims could have stayed away from the time and place of the disaster—but obviously, this would not affect the issue that the event occurred to the remaining majority. Furthermore, what is possible but not probable for one individual, may turn out to be actuality for another. Individuals, in fact, may be temporal slices of the whole (see Orme, 1969).

I would like to make one further point about theories of time and precognition. As in various aspects of physics, either of an astronomical or atomic nature, the purpose of proposing new looks at time tends to be limited to explaining the particular phenomena in question. What

is rarely appreciated is that if some fundamental alteration is necessary to our view of time in order to understand precognition, it will also have an important bearing on our views of behavior and experience in general—and ultimately on biological processes as a whole.

Precognition is one kind of paranormal phenomenon. Precognition, telepathy, clairvoyance, and apparitions are probably all variants of some general class of occurrence. To be able to understand one of these variants will probably facilitate understanding of them all. My own belief is that a concentration on the precognition problem will be the most rewarding. It so obviously calls for a change of standard beliefs on the nature of time. Attempts to understand "contemporary" phenomena such as clairvoyance tend to get bogged down by postulating something not so at odds with standard beliefs, such as undetected brain emissions.

Paranormal psychology is rather like its relatives, psychology and psychiatry. In all these subject areas, fundamental advances in knowledge throughout the twentieth century have been rather slight. Perhaps more is known about what is not involved, important or useful. Many experiments have been carried out in all these fields, the experiments becoming increasingly sophisticated as time goes by. But the heuristic value is usually very slight.

One reason for this common lack of progress has been the absence of large-scale cumulative fact-finding. Even now, in paranormal psychology, discussion and experiment are still largely about whether paranormal phenomena really exist. The parallel in psychiatry is the endless argument over whether hysteria, or schizophrenia, or endogenous depression exists. They all obviously do exist. Whether they are what various people believe them to be can come only from a systematic ordering of facts. What I have attempted to do with the precognitive experience is in this general direction. My own view is that rather drastic changes in our ideas on the nature of time are required. Only then will we be able to understand precognition and other paranormal phenomena. It might well be that such changes will inevitably require drastic changes in our views on behavior and experience in general. This will perhaps throw new light on basic issues in psychology and psychiatry and, ultimately, on the nature of biological processes.

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DISCUSSION

CAHN: When you say that correlating a relationship by logging gives you a straight line and then you correlate between two lineal regression lines, have you done a least squares analysis for an exponential?

ORME: No.

CAHN: The reason I ask that is because if we are dealing here, as I suspect from some former work I did, with a decay of protein-based memory, not the cellular-based memory, temporary memory as it is sometimes called, this is coding a first quarter of exponential decay. In retrocognition of fall-off it is presumably roughly the same shape. This is something of some interest, because what I suspect happens in the type of ESP phenomena that we have discussed is that there are at least two orders of events that occur, that I speak of as reception, about which we know next to nothing. In the phenomenon of emergence of a signal, perhaps an energetically weak signal, to consciousness we are dealing with a memory phenomenon, we are dealing with some kind of production of a memory, temporary though it may be, and entirely—to put it psychologically—a primary process in the associational processes of the individual.

ZORAB: Dr. Orme, you said that on the whole precognition seems to diminish as time goes on. The shorter the time in relation to the prediction or the dream, generally the chance is greater that it will be fulfilled. My experience is that the time limit does not make any difference. After reading Dunne's book, "Experiments with Time," people experimenting with the Dunne effect were told that if they went on trying to find concurrences between dream content and later fulfillment, they would be going against precognition, because the further you come from your dream moment, the more chance you have to find some coincidence. One of our well-known space travel experts, after reading Dunne's book, wrote down his dreams. He did this for about two-and-a-half years. Every time he had a dream he awoke and wrote it down, and this happened three or four times a night. Most of his dreams, in the beginning, were clarified after two or three days. Gen-

erally he dreamed of reading a notice in the paper. Later, after 25 years, he told me that after all that time he began reading the notes he kept on the dreams. He found that there were quite a lot of notices mentioning events that were going to take place after 20 to 25 years.

ORME: I would not dispute at all that these long intervals appear to occur. I just wonder, though, if he collated all this together despite the fact that some were at a long distance in time. Nevertheless, the majority might be at a nearer distance.

MEERLOO: You know there are people who predict their own deaths, even when they are obviously healthy. Of course we can explain it sometimes from some fact in the past, later on. There is an extensive psychiatric literature about it. What we had to deal with in Columbia was the prediction of death by the voodoo priests. People actually died, three or four days after the prediction. We had great trouble handling these people. We could not counteract until we put them in deep hypnosis and made counter-suggestions. We are able, in hypnosis, to predict what will happen to someone in the future, but we cannot command.

ORME: I think it would be nice, but perhaps not possible, to collect a series of premonitions of death. I think the problem is that in the cases one might come across incidentally, how would you distinguish them from what I would assume to be a very common sort of neurotic fear.

MEERLOO: Whatever it was, these people knew they were going to die. This is distinguished from the voodoo death, the self-predicted death. There are many cases recorded in psychiatric literature.

CAMSTRA: I have a hunch I can explain away your decay curve in some way. It is well known that anticipations, as long as they are not confirmed, do not, generally, have any special power. So they tend to be forgotten. If you take one of the well-known forgetting curves from psychology, it will show exactly the same trend as your decay curve, so my question is: Would forgetting not account for this particular curve?

ORME: I think it is a logical possibility.

KOESTLER: I think it is an encouraging sign that after Professor Flew has proved to us that precognition is logically impossible, we are now discussing the modalities, logarithmic curves and so on of an impossible happening. But, if I may hark back to what Professor Flew said, after two presentations around the same theme, the argument sounded like a mixture of Oxford linguistic philosophers and a type of physics that is now about forty or fifty years out of date, a rigid, deterministic physics totally ignoring relativistic time, the clock para-

dox that is part and parcel of the relativity theory, the whole picture of a four-dimensional continuum in which events follow world lines. They are processes, and cross-sections through these processes might be logically untenable because they freeze the process, and a frozen process is no longer a process. Interactions along a world line, a space-time world line, are a little less mind-boggling. Finally, there is the model of the universe where space and time form a continuous or eternal presence, in which there may be quite different criteria, not included in our Greek categories of logic, or Oxford categories of logic.

ALBERTI: Perhaps a thorough recording of dreams and the anticipation contents could have helped in eliminating this source of error. But I think that the recognition of the anticipated contents is very probably influenced by the memory of the details of the whole contents. Perhaps you will not look at your notebook just to check on every fact happening in your life and so you will miss some of these.

BRIER: Everybody has the feeling that maybe precognition does not have a decay curve. You can do an experiment to determine it. You do not have to rely on spontaneous material. You can give a group of subjects an ESP test, predicting decks of cards and you can determine some of the card orders a week after the predictions, some a month after the predictions and some a few years after the predictions. This kind of thing has been done and it does not follow the decay curve.

ORME: My own feeling here is that I am not terribly happy about experimental paranormal methods. I think there are a number of reasons why they do not work very well. With precognition, this becomes even more important because, if one accepts any validity in spontaneous material (I think one has to, if one is going to consider it at all), it would appear a fact that precognition does not occur very readily at all under normal, conscious, waking tension. I think one has to tackle it with a dream or some artificially induced method analogous to dreaming.