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# 'LUCID' DREAMS AND ESP: AN INITIAL EXPERIMENT USING ONE SUBJECT

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## ABSTRACT

A new method of ocular signalling, devised by the author, enabling subjects to convey information from ongoing 'lucid' dreams (those in which the dreamer is aware at the time that the experience is a dream), was here applied to ESP research. The technique circumvents the general bodily paralysis of Stage REM sleep which prevents other forms of physical communication. The short pilot-study (2 lucid dreams only) involved the subject signalling numerals from within the lucid dream. These were supposed to correspond to 4-digit numbers 'transmitted' by the experimenter. The results were mildly encouraging on the second occasion. Proposals for further work are presented.

## INTRODUCTION

'Lucid' dreams are those in which the dreamer has the insight to realize, at the time, that the experience is a dream. The term was introduced by van Eeden (1913), and Green (1968) presented collated material on the phenomenon. This state of consciousness within the dream is often subjectively reported to persist for several minutes. A further characteristic, at least with experienced lucid dreamers, is that the content and course of action may be manipulated to some extent. Not everyone has this type of dream but a few people experience them frequently—perhaps several times a week. Lucid dreams are potentially of great importance in understanding the dreaming process as they provide a way of studying the state 'from within'. The lucid dream subject ('oneironaut'?) is aware of the state and can perform experiments and observations. The problem of identifying the lucid dream in the polygraphic record was overcome by this author in an extensive study of these dreams (Hearne, 1978) by instructing the subject to signal information (e.g. the onset of lucidity and the start and finish of specific dream activities such as 'flying') by pre-determined ocular movements (Figure 1). This circumvented the massive bodily paralysis of Stage REM sleep which affects the rest of the musculature (Hodes & Dement, 1964; Pompeiano, 1970). The author discovered that they are genuine dreams (rather than a form of waking visual imagery) occurring in unambiguous Stage REM sleep. The ocular signalling technique thus provided a channel of communication from the sleeping and dreaming subject to the outside world. Using that method, basic electrophysiological and psychological information on these dreams was thereby obtained. (Evidence was noted too that the breathing rate may be under volitional control in a lucid dream). A small part of the general investigations involved simple testing of the subject, in a lucid dream state, for any ESP ability.

At an anecdotal level, ordinary dreams appear to be the most frequently

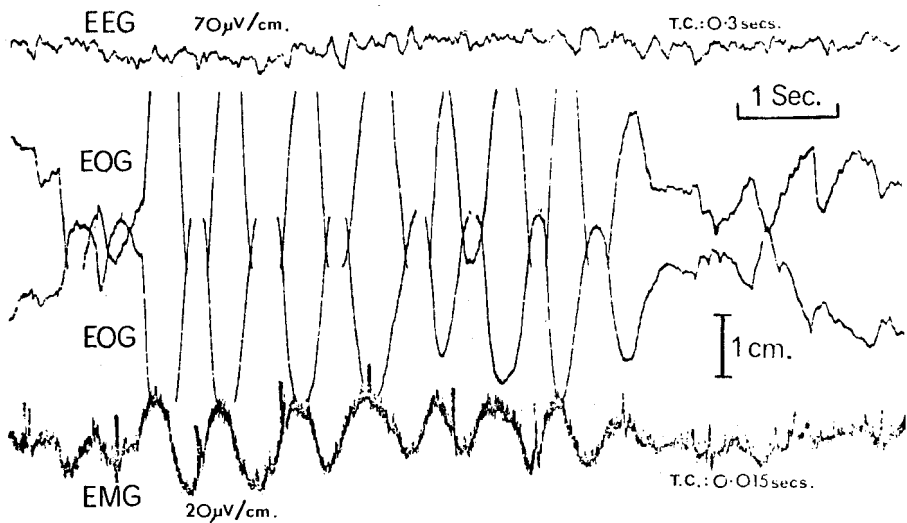


Figure 1. Example of deliberate ocular signals from a 'lucid' dream. (Stage rem sleep.)

reported medium for cases of alleged ESP (Rhine, 1962). Some sleep-laboratory studies claim to show that the subject's dreams can be influenced by the thoughts and perceptions of someone else (Ullman, Krippner and Vaughan, 1973). However, other researchers have not obtained such results (Belvedere and Foulkes, 1971; Foulkes, Belvedere, Masters, Houston and Krippner, 1972; Hearne and Worsley, 1977). If a hypothetical ESP ability is increased in dreams, the lucid dream would seem to be the ideal state for examining that notion, since the subject knows that an experiment is being performed and can, using the new ocular signalling technique, convey any 'guesses' to the outside world. The ESP experiment described here involves a sleep-laboratory study of one subject who experiences lucid dreams. The hypothesis of enhanced ESP in dreams would be tested by observing whether knowledge of 4-digit random numbers could be obtained by the subject and signalled from the lucid dream state. Pressure of other investigations limited this study to 2 lucid dream nights only.

## METHOD

**SUBJECT:** A 37-year-old male was used as the subject in this study. He reports that he has lucid dreams approximately once or twice a week on average, and that they started some 20 years ago. He was unpaid.

**APPARATUS:** An Elema Schönander Mingograf was used as the recording instrument. Four channels measured EEG, EOG (2 pens) and EMG. EEG was derived from electrodes placed at approximately Pz and Fz positions according to the international 10-20 electrode placement system (Jasper, 1968). EOG was obtained from electrodes placed above and below the outer canthus of each eye in diagonal pairs. Submental EMG was recorded from electrodes on each side of the chin. A ground electrode was placed on the subject's forehead.

SETTINGS:

EEG: Gain.  $70\mu\text{V}/\text{cm.}$ , time-constant: 0.3 secs., filter: 15 hz.

EOG: Gain:  $70\mu\text{V}/\text{cm.}$ , time-constant: 0.3 secs., filter: 15 hz.

EMG: Gain:  $20\mu\text{V}/\text{cm.}$ , time-constant: 0.015 secs., filter: 700 hz.

INSTRUCTIONS: The subject was informed verbally that the experiment on these two occasions would involve 'telepathy' and that the experimenter would attempt to 'transmit', by thought, a 4-digit random number (using numbers 1-5 inclusive only, to avoid lengthy ocular signalling) after the subject had signalled the onset of lucidity (by making seven or eight horizontal eye-movements in rapid succession). He was told to scan the dream scenery for any such number, or make guesses, and signal by making the same number of horizontal ocular movements as the value of each digit. There was to be a pause between signalling each digit.

RANDOM NUMBERS: The 4-digit random numbers were selected after the subject had entered sleep, by blind entry to random number tables. The probability of the subject signalling the same number as that selected by the experimenter would be  $P = (1/5)^4 = 0.0016$ .

SITUATION OF E: The experimenter was situated in the control room on the floor below the sleep-laboratory bedroom. Sound insulation between the 2 rooms was poor however, so their relative proximity was unsatisfactory from a strict experimental viewpoint, in case of unconscious vocalization of the random number by the experimenter.

ATTITUDES: Both subject and experimenter were slightly optimistic that an extra-sensory effect might be shown in this study.

## RESULTS

The two lucid dreams for this study occurred spontaneously on separate nights over nine all-night polygraphic monitoring sessions. Both displayed electro-physiological signs of unambiguous Stage REM sleep throughout, and were marked in the record by pre-planned ocular sequences apparent in the EOG channels. The initial lucidity signals from the 2nd lucid dream are shown in Figure 1. The subject woke himself from the lucid dream on each occasion. 1st lucid dream: Time: 6.30 a.m. Duration (from start of initial lucidity signals to waking): 104 seconds.

The subject, when lucid, saw a 3-digit number stamped on an object. He woke without having signalled though. On waking, he believed the number was 156. This in no way corresponds to that which was randomly selected (2444).

2nd lucid dream: Time: 7.50 a.m. Duration: 130 seconds.

In this lucid dream the subject saw several numbers on gates and awnings. He became rather confused as several of them he was about to signal contained numerals higher than the stated limit of 5. Thus several attempts to signal were aborted. He remembered signalling a number which was perhaps 253. The polygraphic record shows that a number which might be 253 was communicated (Figure 2). The randomly selected number was 3352.

## DISCUSSION

In the first lucid dream the lack of signalling was peculiar as the subject had

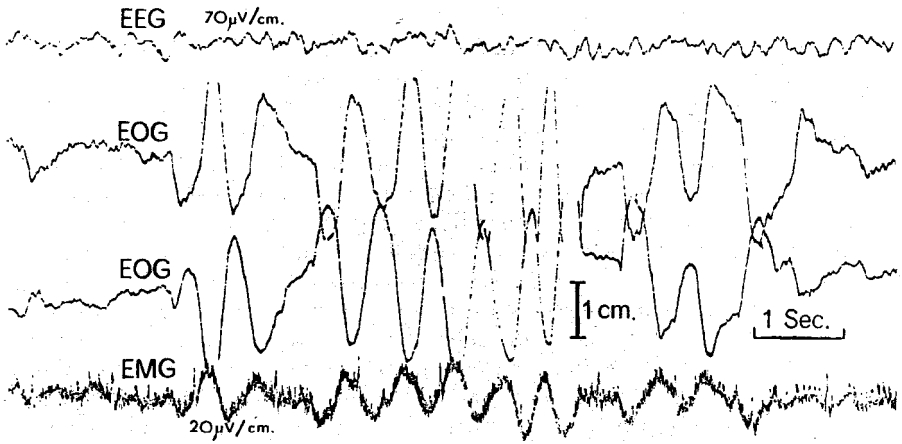


Figure 2. Example of numerals signalled from a 'lucid' dream in a test of E.S.P. (Stage rem sleep.)

signalled much information in other studies. Even so, the number was obtained in Stage REM sleep and the subject appreciated that he was asleep and participating in an ESP experiment. The non-correspondence between reported and 'transmitted' numbers though indicates that no incredible ESP ability is present in Stage REM sleep for this subject.

In the second lucid dream the abundance of numbers which were unsuitable for transmission according to the subject's instructions, not surprisingly, caused problems. The discrepancy of one numeral between reported and recorded numbers could simply be due to the normal deficiencies of short-term memory when faced with trying to remember several items. In general it has been found by this author that the signalled information from lucid dreams corresponds with that described subsequently on waking. Occasional lapses occur, as would be the case for a person recalling several recent perceptions. It is clear though that the signalled data should be taken as the actual 'guesses'.

It is obvious from Figure 2 that the signalled numerals are not spaced adequately. In future experiments of this nature, subjects should be instructed to signal with a suitable pause between digits. If the signalled number here is 253 it does at least consist of the three numerals of the target. No statistical significance can be attached to this however. It is perhaps mildly encouraging for further investigations.

The problem encountered concerning the limited range of numerals (1-5) shows that it would be better in fact to use all the numerals 1-9, with a special code for 0 (possibly a few fast ocular movements). The experimenter can select a new number 'on demand' after the subject has completed signalling one, and this routine can continue for the duration of the lucid dream.

The short pilot-study described here revealed that ESP experiments may be conducted with a subject in the lucid dream state. However, the experiment was coarse and could only have revealed a high degree of ESP if it were present. A

hypothetical psi ability could be produced or enhanced in lucid dreams but many trials would be necessary to show the effect. It is conceivable that in the lucid dream levels of consciousness and perception not normally experienced might be tapped. The state could even represent an earlier 'fossil' stage in the development of man's consciousness. If ESP was present in primitive man remnants might exist in Stage REM which could be studied scientifically. The main purpose of this paper is to introduce a suitable technique for the parapsychological investigation of Stage REM via lucid dreams.

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