

## Proceedings of the European Symposium on Lucid Dream Research

### Overview of the German Research in the Field of Lucid Dreaming

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#### 1. My Involvement with Lucid Dreaming

With the aim of examining a number of claims about dreaming, I looked for a technique that would allow the scientist to make systematic observations during dreaming with a clear consciousness. This was in 1959, a time when the phenomenon of lucid dreaming was completely unknown both to myself and the majority of psychologists. The main thought underlying my first technique for the induction of lucid dreaming went as follows: If one develops a critical frame of mind towards the state of consciousness during the waking state, by asking oneself whether one is dreaming or awake, this attitude will be transferred to the dreaming state. It is then possible through the occurrence of unusual experiences to recognize that one is dreaming. One month after beginning with this method, I had my first lucid dream.

A short time later I developed a technique for ending lucid dreaming based on psychophysiological findings. By fixing one's gaze on a stationary part of the dream scenery, the latter will become blurred and as a rule one wakes up within about ten seconds. Having used this method for a series of experiments on myself, I conducted experiments with several subjects in order to attain intersubjective results.

#### The expression "lucid dreaming"

In the course of my experiments it occurred to me that it would make sense to distinguish between 7 aspects of lucidity (clarity):

- (1) clarity that one is dreaming;
- (2) clarity regarding one's own ability to decide to do something;
- (3) clarity with regard to recollecting one's waking life, especially to recollecting what one intended to investigate in the dream;
- (4) clarity respecting recollecting the dream (this is the only aspect which is not directly related to the dream itself);
- (5) lucidity of the consciousness, as opposed to a disturbed consciousness;
- (6) lucidity of perception (being able to perceive everything one sees, hears, touches, smells, tastes, etc. in the dream) and

(7) clarity regarding recognizing what the dream symbolizes.

## 2. Philosophical Principles

My philosophical principles are based on the critical realism of Gestalt psychology. In this respect, I deviate from esoteric, mystic and behavioral theories, but also from the theories of Freud, Adler, Jung and numerous other writers, none of whom distinguish between the phenomenal (mental) and the transphenomenal (beyond physical and physiological) sets of facts. The empirical principles are not only of theoretical significance for methodology and the scientific classification of experiments, but also of practical importance, because knowledge of them allows a risk-free lucid dreaming. As far as the mind-body problem is concerned, the working hypothesis suggests isomorphism (i.e. a correspondence between the dynamic structures) between phenomenal (mental) facts and their brain correlates.

## 3. Methods

### 3.1 Empirical and Experimental Phenomenology

For Gestalt psychology, phenomenology is seen as the observation and description of experiences in as objective a way as possible.

From the viewpoint of critical realism, this method is vital to all empirical sciences, since even physics, for example, must also depend on observations. However, these observations must be made by several people independently of one another in order for them to be viewed as intersubjective. Experimental phenomenology demands in addition a variation of the independent variables. In our lucid dream research we based our work on a special form of this method. The coordinator of the experiments instructed different people in groups of subjects to carry out given activities during lucid dreaming, to observe their effects and to write these up immediately after waking up. This method allows us to investigate not only psychological, but also psychophysiological hypotheses on dreaming and lucid dreaming.

### 3.2 Methods Using Apparatus

As a back up to the phenomenological method, we also used methods requiring apparatus, which are able to register physiological data (e.g. EEG and EOG) and could also transmit signals - at a level below that required to wake a person - back to the subjects. These methods were used for a variety of very different aims.

## 4. Techniques for the Induction of Lucid Dreaming

We distinguish between two different kinds of induction technique:

(1) Techniques to induce lucidity in which one attains the lucidity that one is dreaming during normal dreaming;

(2) Techniques allowing the subject to maintain lucidity in which one maintains lucidity concerning one's state of consciousness while one is falling asleep.

The reflection technique which was mentioned briefly in the introduction belongs to the first group. This technique was expanded during the course of our investigations; great care was taken to ensure that as many criteria of lucidity as possible were met. Two problems occurred during implementation of the reflection technique and were subsequently investigated in greater detail. The first problem concerned the critical question of whether one is dreaming or not. In this connection, it proved effective to take into account three factors:

- (1) the frequency factor;
- (2) the similarity factor and
- (3) the time factor.

In other words, when learning how to induce lucid dreams it is important to ask the question:

- (1) as often as possible;
- (2) as much as possible in situations which are similar to dream experiences and
- (3) ideally just before falling asleep (especially in the early hours of the morning).

The experienced lucid dreamer does not need to ask the critical question during the day, since he sees the world in general with a more critical and clearer consciousness.

The second problem concerns the question of criteria for lucid dreaming which allow one to recognize that one is dreaming. Mention should first be made of criteria which occur spontaneously in this connection. They are concerned above all with unusual perception and/or ambivalence between one's knowledge of the waking reality and the present circumstances and events. Since, however, the dream world often appears to be identical to the waking world when one asks this question, it is often useful to conduct so-called reality tests. Both mental or physical activities serve this purpose equally well. In the first instance, one tries to remember what event preceded the present situation. If one then encounters gaps in one's memory or bizarre events, one can speak of a dream state. The turning test can be employed in the context of physical activities. The subject performs a turn of 180 degrees. If he then observes that his body continues to turn, or if the surroundings turn in the opposite direction, we can likewise speak of a dream state.

Induction methods using apparatus can also be used to attain lucidity. In this method special apparatus is employed which registers by means of physiological data that

the sleeper is in the REM-phase and then transmits signals to the sleeper after a variable delay period, allowing him to recognize that he is dreaming, without waking him up.

There are a great number of techniques for maintaining lucidity. They can, in some cases, lead to so-called 'out of the body experiences', a state in which one (according to our critical-realistic understanding) does not leave the physical organism, but rather merely the phenomenal (mental) body.

### 5. Techniques for the Manipulation of Lucid Dreams

The content of lucid dreams can be manipulated or controlled in a variety of ways. For example, it can be done during the pre-sleep phase. If one thinks over unsolved problems before falling asleep, a quasi-need develops which according to Lewin can be interpreted as a system in a state of tension. In the dreaming state, this system is able to relax more easily, which may not only lead to the problem being solved but also help the dreamer to become aware that he is dreaming.

During lucid dreaming, the dream ego can control the dream content in a variety of ways through different mental, verbal and physical activities as well as through the support of other dream figures. Less experienced lucid dreamers cannot manipulate their dreams to the same extent. The restrictions they experience stem from physiological or psychological (cognitive and affective) causes. The main cognitive cause is that inexperienced lucid dreamers find it difficult to bring about experiences which contradict their experiences in the waking state. The affective reasons would seem to derive from psychological resistance, which hinders the contact to one's own unconscious.

Although the many techniques for the induction and manipulation of lucid dreams with the aid of experimental-phenomenological methods were first developed in the course of numerous investigations, we have included them before the following experiments, since they constituted an important aid to a number of the experiments.

## 6 Lucid Dreaming Research based on Philosophical Principles

### 6.1 Phenomenological Experiments

In the following experiments we used both the empirical and the experimental methods of phenomenology. We confined ourselves as much as possible to relating a few findings and their interpretations.

#### 6.1.1 Perception during Lucid Dreaming

During lucid dreaming the appearance of the dream world often seems to be identical to that of the waking world. Certain of our perception experiments sometimes (but not always) led to the same results as in the waking state. It was possible, for example, to deliberately bring about double vision, positive after-images, as well as the restructuring of figures. Other highly unusual experiences also occurred, however such as flying or floating, out of the body experiences, panorama vision (360 degree), four-dimensionality of space, the slowing down of time, and cosmic experiences.

We use these widely differing forms of experience to differentiate between

different types of lucid dreaming. Some experiences were similar to psychedelic experiences. However, for subjects with experience of drugs, the experiences in lucid dreaming were more intense.

### 6.1.2 Cognition in Lucid Dreaming

Subjects had very few difficulties recollecting their waking life. However, when it came to remembering the events which had preceded falling asleep, gaps of memory did occasionally occur.

Finally, I would like to mention a significant experiment used to test thinking ability which was important for later investigations. The subjects had to set themselves multiplication tasks during lucid dreaming, to which they did not know the answer in advance. The subjects were able to solve the problems during lucid dreaming, although greater difficulties were experienced in remembering sub-totals than in the waking state.

### 6.1.3 Investigations on the Start, Course and End of Lucid Dreaming

The start of lucid dreams differed greatly, according to the induction technique employed. The further course of the dreams made more sense and had greater coherence than was the case for normal dreaming, though the quality of the latter improved with practice.

We conducted an experimental-phenomenological experiment on the ending of lucid dreaming, in which the subjects were requested to finish the dream deliberately by staring at part of the dream scenery and at the same time to observe their experiences exactly. They were further asked to vary the posture and position of their dream bodies for each experiment. The following phenomenon emerged:

- (1) Only one body was experienced during the transition from the dreaming to the waking state. If the dream body was in an upright position and the waking body in a lying position, the subject did not experience a turning of the body, but an alteration in the space framework; if the posture of the dream body differed from that of the waking body, then the exact contours of the dream body disappeared.
- (2) The subject experienced a simultaneous feeling of becoming conscious of the waking body and a slipping away of the dream body. Experienced lucid dreamers succeeded in a visual reconstruction of the dream scenery.
- (3) A bodiless dream ego slipped into the waking body.
- (4) There was a transition to dream-free sleep.
- (5) The lucid dream was not finished, instead there was a complete change of dream scenery.