Alan Worsley's Work on Lucid Dreaming

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I have had lucid dreams since I was a child and first carried out experiments in lucid dreams in my early teens. I did not have access to an EEG machine operator to obtain hard evidence of my findings until, in 1975, I persuaded Keith Hearne that we should use his expertise with the EEG machine at Hull University to investigate some of the more accessible physiological correlates of lucid dream activity. By this time I had a first degree in psychology and six years' post-graduate research as a student and member of staff at Hull University.

It is one of the ironies of lucid dream work that the experimenter in the lucid dream state cannot operate the EEG machine himself (although progress has now been made on this). Without Keith I could not have proceeded further with my lucid dream experiments in a way that would produce acceptable results, and I was very pleased to have Keith's help in this way. Then, after our initial exciting success with eye movement communication, Keith was so enthusiastic about this new technique and the whole subject of lucid dreams, that he arranged, with my cooperation, to make lucid dreams the subject of his doctorate thesis.

In consequence of this agreement all the early work went into Keith's thesis, but this was not intended to be a permanent arrangement. I continued to work with Keith until 1980 when publicity for Keith's version of the lucid dream machine reached a peak. Since then, I have been working with Dr. P. Fenwick and Dr. M. Schatzman in the EEG Department of St. Thomas's Hospital in London on the electrophysiological aspects of lucid dreams, and at home on those aspects less accessible to current physical techniques.

Some of this latest electrophysiological work has been written up. . . . We have shown, among other things, that it is after all possible to operate a hand-switch in a lucid dream, provided the switch is suitable. The switch can also be foot-operated. An interesting recent demonstration at St. Thomas's is that it is possible, by appropriate manipulation of dream imagery, to achieve smooth, controlled movements of one eye while the other eye remains still. This is perhaps the best evidence yet of the close relationship between dream imagery and physiological activity.
In the same dream I performed a light switch phenomenon (LSP) experiment in circumstances of low illumination, which followed "opening the eyes." Before "opening the eyes" only haptic imagery was present. I switched the light on and the low illumination became normal illumination smoothly, over a period of about three

seconds. From previous personal instances this appears to be a regular pattern and may well be the same for other lucid dreamers also, provided they do not alter their expectations to correspond to "light not working" when it does not come on sud-denly as intended and expected. Therefore, perhaps a more important limit than that of brightness proposed by Keith Hearne (some limit on brightness is unavoidable) is a limit on the rate at which a change in the imagery can occur. The EEG record in this instance shows no obvious change in relation to the LSP. It has not yet been subjected to spectral analysis.

I am at present carrying out a series of experiments on myself, at home, to ex-plore a number of aspects of the LSP. One of these is to arrange to view the dream scene through a coloured filter (for example, plastic or glass, or whatever you can find in the dream). Points to observe are: What is the effect? How long does it last? Does it go when the filter is removed, etc.? It is also important to distinguish be-tween instances of:

1. Low initial illumination;
2. No illumination; and
3. Whether the imagery is active or static.

It seems, again from a rather small number of personal experiences, that dream imagery in different sensory modalities is not necessarily well integrated (I have, on rare occasions, had experiences where I seemed to be having different dreams in dif-ferent modalities—seeing one thing but feeling another). The initiation of imagery in an inactive modality, especially vision, by manipulation of imagery in an active but different modality, for example, operating a light switch in the dark, may be harder than trying to achieve effects within an active modality, for example using colour filters over the eyes or the light source.

This experiment is intended to reveal the imagery dynamics relating to attempts to affect the appearance of the visual imagery as a whole. Another way of doing this would be to vary the source of the light and the means of control, for example, sun-light and a blind.

Another experiment in this LSP group which I have tried several times is the "gun" experiment. This is designed to investigate the production of sudden effects within the context of the otherwise unchanged dream scene. Is there a bang, a kick, a flash? Does the bullet hit the target? How long does it take to reach the target?

Perhaps one point I should make now is that as the above experiments are likely to be carried out in "full" dreams, that is, with active imagery, whereas in the nature of the

situation the LSP tends to be associated with an initial situation involving either no visual imagery or static visual imagery, the single dimension comparison experiments I have proposed are not one hundred percent comparable, even though the typical LSP situation may be followed by a classic lucid dream.

I am pleased to hear that Keith Hearne's dream machine really works. As [at the time this article was written] his latest publication giving evidence for this (Lucidity Letter, Volume 1, Number 3) [was] not yet available, I refer to the previous one in the New Scientist, as follows.

From this article it is not clear what method Keith, in attempting to induce lucid dreams by electric shocks, used to verify that lucidity had in fact occurred. "Eight out of twelve subjects, each run for one night only, reported becoming lucid on those occasions," (my emphasis). While dreaming, I have demonstrated, as has LaBerge, the ability to signal the message that lucidity is occurring. One excellent technique for doing this, which Keith and I devised in 1975, is communicating by eye movements. Is this the technique he used with his eight allegedly successful subjects? Were any of these "reports" of lucidity made while the subjects were still asleep and in REM? If they were, it would seem appropriate for him to have said so instead of using the ambiguous term "reported."

If it is the case that these reports were made verbally after waking, then it must be pointed out that because of the demand characteristics of the situation (namely the subjects' knowledge of the desired result—lucidity induced by electric shock), there must be serious doubt about the value of such reports.

Furthermore, he fails to report instances in other experiments he carried out in which lucidity was reported as having been induced by shocks when there were no shocks but the subject, expecting shocks, dreamed that there were. This control data diminishes the significance of the eight out of twelve positive "reports" even fur-ther. Subjects in experiments concerning dreams and altered states of consciousness are so sensitive to suggestion that twelve individual trials is a small sample upon which to base an important scientific claim.

Let us see a continuous polygraphic record showing by EEG, EOG and EMG:

1. That the subject was in REM immediately before the shocks;
2. The point at which the shocks occurred;
3. The eye movement signal denoting that lucidity was achieved; and
4. The continuance of REM after the lucidity signal.

Such an example would be more interesting than the one shown which, in fact, does not show a lucidity signal in response to electric shocks, as the context might seem to imply, but is a record of a spontaneous lucid dream that I had in July 1976.

Incidentally, contrary to what Keith Hearne seems to be claiming, the "dream machine" described in Lucidity Letter (Volume 1, Number 3), using a nasal thermistor, is not yet (to 16 June 1982) patented, at least not in Britain.

Editor's Note: A document issued by the British Patent office 17 June 1982, was enclosed with the preceding letter.

References

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