



The Problems of Induction

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Price: All of us here are drawn together by our fascination with the lucid dream experience. We believe that it has the potential to enhance personal development and perhaps to increase our scientific understanding of dreams and consciousness. Without intentional induction procedures, lucid dreams tend to occur spontaneously but sporadically. An individual experiencing a lucid dream for the first time, will often become intrigued by it, and attempt to increase the frequency of these experiences by trial and error. These hit and miss methods do not often achieve their goal consistently. If we are to make progress toward scientific and the personal understanding of lucid dreams, we must first develop techniques to induce the lucid dream experience reliably. This is the most important task currently facing lucid dream research.

At present one can find throughout the literature a wide variety of (proposed induction) techniques, very few of which have been formally tested. In our attempt to find order among the jumble of procedures we need some way of organizing them. There are, of course, many different dimensions along which these techniques may be organized. Some of these are, for example, time of day practiced, induction prior to or during sleep, home or sleep lab setting, and self- or experimenter-induced. By way of introduction, I would like to present one possible classification scheme for induction methods. I will present this scheme in a very brief, bare bones fashion. For those of you interested in fleshing out this outline, it is presented more fully along with its theoretical underpinnings in Gackenbach and LaBerge's forthcoming book, *Lucid Dreaming: New Research On Consciousness During Sleep*. (Editors Note: This book is due out in mid—1987.)

Table 1

Lucid Dream Induction Techniques

LUCID-AWARENESS TRAINING	
Active Critical Attitude (Tholey) / Receptive	
Perceptual Awareness	
Alpha Feedback Training (Hunt et al.)	
Waking Fantasy Training (Malamud; Sparrow)	
INTENTION AND SUGGESTION TECHNIQUES	
Action-Specific Intention (Hearne's FAST)	
Mnemonic Induction of Lucid Dreams (LaBerge's MILD)	
Posthypnotic Suggestion (Dane)	
CUE "REM-MINDING" TECHNIQUES	
Tactile Cues (Hearne)	
Auditory Cues (Kueny; Price & Cohen)	
ADDITIONAL TECHNIQUES	
Combined Techniques (Garfield; Tholey)	
Hypnagogic Lucidity Techniques (Tholey)	

The first category in Table 1 • “Lucid Awareness Training”, involves an attempt to promote a particular attitude or state of consciousness during wakefulness. The idea is that once this attitude becomes firmly established while awake, it will be triggered during the dream. Examples of the target waking state of mind have ranged from Tholey’s emphasis on an active critical attitude through a state of heightened receptive perceptual awareness that promoted by Peth and others. Although these two states seem to be at opposite ends of the active-passive continuum, Lucid Awareness Training may be the most effective when a synthesis of these two attitudes is developed. After noting the similarity of lucid dreaming to the various meditative states, often accompanied by alpha brain waves, Hunt and his associates suggested that lucid dreaming may be facilitated by training subjects prior to sleep, to increase alpha activity. This technique is known as Alpha Feedback Training”.

Malamud and Sparrow independently utilized procedures in which subjects “redream” their previously unpleasant non-lucid dreams during waking fantasy. As if they are lucid. Through this process the individual becomes familiar with a state of consciousness similar to the lucid dream. The Lucid Awareness Techniques may be carried out during the day or immediately prior to sleep onset.

The second major category, Intention and Suggestion Procedures, has recently been distinguished by Tholey. Under the heading of intention procedures, we have “Action Specific” Intention. Because the intention to become lucid is a rather vague goal to carry into the dream, the individual intends instead to perform a particular action in the dream which is associated with lucidity prior to sleep. Examples of this are Castaneda’s Hand Focusing Technique and Hearne’s False Awakening with State Testing or “F.A.S.T.” technique in which experimentally induced false awakenings are intended to promote lucidity. LaBerge’s “Mnemonic Induction of Lucid Dreams” or “MILD” utilizes a mnemonic intention and visualization procedure after awakening from a dream in the early morning hours.

On the suggestion side, Joe Dane, has formulated a two part strategy for utilizing Posthypnotic Suggestion and achieved some encouraging results that he will discuss. The majority of these intention and suggestion procedures are carried out right on the verge or just prior to falling asleep.

The last major category, “Cue-REMinding”, attempts to stimulate lucidity by introducing an external stimulus during REM sleep. These attempts have focused primarily on auditory and tactile cues. Hearne has developed a machine that delivers a mild electric shock to the wrist of the dreamer to cue lucidity. The most common method used to induce lucidity with external stimuli has involved auditory cueing. LaBerge introduced a taped message to the dreamer, which repeated, ‘This is a dream’, so that it would directly remind the dreamer without awakening. Kueny recently completed a study utilizing four different auditory cues: one similar to LaBerge’s and another composed of

a musical phrase.

David Cohen and I used auditory biofeedback during REM sleep. Initially our goal was to influence the frequency of eye movement in order to observe the effect on the dream content. In a pilot study the technique was highly associated with lucidity. Most of these "Cue-REMinding" techniques involve the use of special equipment and sleep monitoring in the lab. Because of this requirement, these procedures might best be suited, as Tholey has suggested, to acquaint previously non-lucid subjects with their first lucidity experience.

Because all of these techniques may be more effective when practiced together rather than in isolation, combined techniques have utilized various combinations of these procedures. Finally, "Hypnogogic" Lucidity Techniques refer to procedures designed to retain continuous reflective awareness while falling asleep, thus inducing hypnogogic lucid dreams.

This outline is intended only to familiarize you with the range of techniques that have been proposed, and to provide some order to them. We must first know what we have to work with so we can systematically determine which are most effective. Because of time constraints, I have said little about the results obtained with each of these techniques. Although each major class has been met with some limited success, none has yet emerged as superior.

During this discussion, we will attempt to focus on the following three questions. First of all, 'What common factors can we extract from the available induction techniques as the essential element(s) for lucidity induction?! Although I have presented three separate classes of techniques, there is a great deal of overlap between them. What are the common threads? Question number two: 'How widely available is the lucid dream experience?' 'Is the potential to develop lucid-ability shared by most dreamers or only a minority?' And finally, if the time allows: 'What are the potentials and limitations of the lucid dream experience in terms of frequency, duration, and content control?' First of all, let me introduce the first question. What factors can we extract and what are your experience with the different techniques?

LaBerge: First, I'd like to make one or two comments about some of the points you've made. I think you've got a nice general outline of the various techniques. However, I would take exception to the idea that all these techniques are sort of good. I think some techniques you have listed there are just ideas and that nobody has ever shown that they work even once.

For example, the F.A.S.T. technique. As far as I know that was an idea described as a technique but nobody has said, 'I did it and it worked for me.' So there's no evidence for F.A.S.T. If anyone has done it, I would like to hear about it. I think that similar things

can be said for the idea of alpha feedback. It was a good idea but results were not forthcoming that showed that it worked.

There are some techniques that I think the evidence suggests might be good for a specific group of people. Also, there are some techniques that might be useful for people who have never had lucid dreams before that will increase their likelihood of experiencing them so that they'll have a lucid dream now and then. But there are other techniques that are designed for enabling one to have lucid dreams at will. The technique that I developed (MILD) was designed to do just that. My goal was to be able to have lucid dreams at will, not merely to increase their frequency. I wanted something that I'd be able to use in the laboratory when I wanted to have a lucid dream at a particular time. I'm convinced from my own experiences with trials using other approaches, being just as motivated, that the MILD is a particularly effective technique in the hands of people of a certain class, yet to be determined. Maybe it's people who have had a lot of experience with lucidity. I don't know. I do know that if I don't use the MILD I can't reliably count on having a lucid dream. Consequently, at a certain level of development, it's a technique that could be useful. On the other hand, the MILD seems to be something that is pretty difficult to teach to people who have had no experience with lucid dreaming. Maybe there will be a different set of techniques that will be useful at different levels of development. That's one thing that would be nice to be able to determine. What's the appropriate developmental level? It is unlikely that we'll have one technique that will do it.

Price: I agree. We may find that the lucid awareness techniques will tend to be more effective at increasing the general frequency of lucid dreams, whereas the intention, suggestion, and cue-REMinding will be more effective in triggering a lucid dream during a particular REM period.

LaBerge: Now to answer your question, 'What do I see as the most effective kind of method?' I'll briefly describe a study that was recently completed in collaboration with Robert Rich, of Stanford, who did his Honors Thesis in Psychology on this. We determined all of the things that we thought might help people to have lucid dreams and had subjects do them. Then we tested the subjects in the laboratory. The results were quite encouraging. We used subjects who did not report frequent lucid dreams so that we had some that had never had lucid dreams. Most of these people had had a few lucid dreams. They knew what they were but they didn't have them with any degree of regularity. Of the twenty subjects, who slept for one night only in the laboratory, something like twelve to fourteen lucid dreams were recorded. This is similar to the results that Joe has gotten.

Now what did we do to produce these results? First we had a Waking-Training Procedure which was associated with a particular cue that would be applied during the REM state. The Waking-Training Procedure consisted of wearing a device on their ankle

that was connected with a timer that caused a vibration to occur every 30 or 40 minutes throughout the day for 5 seconds each time. This was a reminder to tell the subjects to check whether or not they were dreaming at that moment. The test that we gave people to do this checking was as follows. We had digital watches on their hands which they would look at to see the time, which they then recorded. Then they would check to make sure their recorded list of numbers all made sense. It was a solid reality test which no dream would pass. In addition, because the answer's always no, we wanted to do something else so that they wouldn't get in the habit of thinking, 'Well, I know it's not a dream.' So the next step was to ask them, 'Alright, you know this isn't a dream, but if it were?' This is similar to Tholey's technique of imagining it as if it were. We asked them to imagine, 'The next time I'm in the laboratory, when I feel this it will have been. a dream.'

We had a few other techniques where we asked them to ask themselves certain questions. We guided their thinking about how they were going to find out whether they were dreaming in ways other than the watch, to give them practice in the critical reflexive technique. We had them do this for one or two days. We have reason to believe that two days is better. They then came into the laboratory. When they were in REM sleep we would apply the same stimulus to which they had developed an association. The key innovation is the association. In the past induction studies with some sort of external cue supplied no association to the cue. For instance, we've had some very odd situations where the cue seems to get into the dream but the dreamer doesn't know that it means anything. I remember one subject who wrote out his dream report. I said, 'Well, what happened there?' 'Didn't you hear it?' In his dream report it said, 'These people are trying to say something to me but I don't want to listen. They say you're dreaming'. That's what he wrote. He didn't even recognize that until he woke up. He was hearing it in the dream. It's not enough to have the information appear. Dreamers have to have an association made between the cue appearing and a particular reality testing action. We found, interestingly enough, that nobody in their dream felt the vibration and then looked at their watch and discovered their true state. Either people felt the vibration and thought, 'Oh, yup, there it is. It's the dream,' or else the stimulus caused the dream walls to start wobbling and other oddities and at that point people said 'This is a dream.' It's a simple condition, no higher consciousness is required. The association to the vibration is 'check reality.'

Price: Did the stimulus ever lead to a micro-arousal or increased alpha?

LaBerge: In one case we got an awake type lucid dream, where there was a momentary awakening and then the person went right back into REM. Generally it didn't occur. The problem of using external cues is, of course, you too often wake people up. If the stimulus is large enough to be effective then you frequently wake them up.

Question: How did you apply the vibrator?

LaBerge: We had it on the ankle at first but then we were waking people up too easily. It was one of these mechanical vibrators which we couldn't start slowly enough. There was an inertia so that once it came on it was too much stimulation. Consequently, we put it at the foot of the bed, in the mattress. That seemed to work.

One reason that we wanted to try a tactile stimulus, was that the auditory system was more associated with monitoring the environment for danger while we sleep and so therefore, more likely to produce arousal.

Price: How did you determine exactly when to intro-duce the stimulus?

LaBerge: That's a good question and points to one of the major deficiencies of the study. How do we decide when to turn it on? We'd turn it on after a REM burst or some other indication of physiological activation. Ideally this should be done with a computer which would be looking for certain levels of physiological activation and always apply the cue at that time. When we start doing studies like that, where we could easily reproduce the levels at which it was applied, we'll wake a lot better progress. Lucid dreams, when they occur, I shouldn't say spontaneously because they're usually induced by deliberate intention, occur with a certain level of physiological activation. You can't be guaranteed of lucidity if the cue is applied at random. That's another important consideration; applying the cue at the right time.

Price: We found that, during REM sleep, when presented the tone, sometimes the subject would just totally ignore the tone while at other times it would awaken him. That is a very touchy issue; trying to present the stimulus at just the right level and at just the right time. Christian, would you like to describe some of the results you got with the Combined Technique?

Bouchet: We had 93 subjects and a lot of them, 88, agreed to do Tholey's Combined Technique. However, of the 88, only 8 fulfilled the requirements of the method. In Tholey's Combined Technique there are nine instructions about lucid awareness. In my opinion, it's possible to divide these techniques into long term and short term. That is, if you follow the first three instructions, I mean those which modify the frame of mind during the day, you are going to have lucid dreams after a long time, but they will be durable. But if you use the short term techniques, you'll have an immediate result but it won't last. Consequently, the Combined Technique is useful for people who have never had lucid dreams. (But in fact, we had a better result with previously lucid dreamers.) It is useful because it is necessary for a non-lucid dreamer to have lucid dreams rapidly in order to be motivated to continue. But to con-solidate the results, it is necessary to strengthen them with the first three technique.

I think it is necessary to make having lucid dreams second nature. For example, you do it for five weeks and after this period you are accustomed to doing it and so

sometimes you ask yourself, 'Maybe I am dream-ing right now? Maybe it's a dream?' Your dream life may be modified if you change your mental habits. This is especially true when you use long term techniques.

Price: Did you find out, Stephen, as you developed MILD, that your daily attitude, changed in any way?

LaBerge: I do think so because MILD is an exercise really that is closely associated with the dream state. When you wake up from the dream, the idea is how to make a connection between where you are now and the next time you're dreaming. So, optimally, it's done immediately after waking from the dream because the physiology of REM persists into the period of waking. Furthermore, it's been shown that when people are awakened from REM sleep and asked to tell a story, they tell very dreamlike stories. So we want to associate it directly with the dream-state.

Price: There is another point that we had talked about earlier, the distinction between people who didn't actually use the technique but still had lucid dreams. I think that would be an important point to make.

Bouchet: This experimentation was done by Roger Ripert and myself. The results will be presented to you by Roger. I will say a few words about the unex-pected results as they have been obtained from people who didn't do the test but did have lucid dreams. This kind of result can't be inserted in a statistical analysis, as there is no data to support it, but it is necessary to take it into account.

First of all, I'll give you a few figures to help you understand the scope of the project. (By the way, Roger Ripert had his own group and we mixed the results.) I contacted 93 persons to whom I explained a lucid dream and Paul Tholey's method of inducing them. As I said, 88 agreed to participate. Only 53 began to work with the method. Of these 53, 35 gave up along the way, 24 didn't answer and 6 have not finished the test because they didn't start it in time. Only 8 have completed the experiment. Their results have been incorporated into those of Roger's group, in order to obtain a larger sample size for statistical analyses.

These figures are interesting because they illustrate two limits to the statistical analysis. On the one hand the statistical analyses only takes into account the results of those who concluded the experiment. The people who gave up also obtained good results and sometimes better than those who finished. On the other hand when you examine the results, you might think that people who are able to obtain lucidity belong to one of the two categories: people who have concluded the test or those who have given it up. Actually obtaining lucid dreams occurred in all categories, including those who did not undertake the experiment. It is necessary, therefore, to find the reasons behind their lack of participation. In our statistical analysis the number of successes was determined by the

dreamers who finished the experiment. Unfortunately, the other successes in obtaining lucidity were not noted. They appeared in subsequent conversations with the subjects. Therefore, it is not possible to give the figures concerning those who have not practiced the technique. What are the causes for the induction of lucid dreams in subjects who have not followed the procedure?

Dane: Let me try and understand; you're about to talk about those who either didn't at all, or only par-tially, completed the procedure, yet nonetheless developed lucid dreams.

Bouchet: Yes. To those who have partly followed the procedure we can assume that they have taken advantage of Tholey's techniques in some way. It is not the same for the others, so we must examine the notion of the psychological field.

To understand the following, it is necessary to know why the test was not practiced. The majority of the subjects declared that they were short of time. But, in my view, the test needs little time: the subjects had only to note their dreams and to fill out the test paper. The instructions were short and should not have interfered with other activities. There was no obligation to record dreams except for the lucid dreams and the dreams associated with lucid dreams. We could presume that lucid dreams would not appear daily, at least in the beginning. In the same way, to fill up a paper is not difficult. The real reason was, in fact, a want of mental responsibility, which is completely different.

This lack of mental responsibility appears in two ways. First, it is a conscious refusal to use the first three prescriptions in spite of an apparently firm decision to the contrary. The instructions stipulate that the subject should ask himself the critical question, which is "Am I dreaming or not?", at least five to ten times a day. Some subjects can't do it. Furthermore they say: "I try to see as in a dream what is around me, but I can't conceive of the idea that it is a dream." Some of them go further and say that when they try to do it they think that it is stupid. It is something like a natural rejection even if it takes the shape of verbal reasoning like: "It is clear that what is around me is not a dream."

For some, this type of question is not a problem. They are those who see life as a movie, as a drama or a game, something to be played. For them, the idea of considering what is around them as a dream is not a case of perturbation because it is an attitude which is already existing in them. Even if they have not begun the technique, merely somebody speaking about the lucid dream with them can provoke spontaneous lucidity. It seems that one of the characteristics of the psychological field favorable to spontaneous lucidity may be found in the ease with which one can question the reality of the world without being anxious. It is a kind of serenity in face of the diversity of life.

Spontaneous lucidity didn't happen before to these individuals because when they

think of the world as a movie, there was no need to transfer such thoughts to the dream state. But when they were asked to think of realism in terms of a dream, the transfer seems to be automatic.

Price: They already had the habit of thinking of the world as a game or film which easily adapted to dreaming.

Dane: That observer rule, if you will, was built into their way of viewing life, and all you did was ask them to apply that one notch over.

Bouchet: The lack of mental responsibility is also the result of our mental concerns. Many of the participants told me that they were not able to follow the instructions because they were preoccupied with personal or professional concerns. These concerns did not allow them to think about the nature of reality. This last attitude is a little different from the preceding one. One who is addicted to his work to such a degree that he forgets himself is not able to think of anything but what he is doing because it is irrelevant to his work. This subject says that he expects a rest period or holiday to occur prior to the test. This kind of attitude characterizes the majority of the subjects who undertook the test. However, they have good intentions.

However, in my view conforming to the instructions of the test is not a hindrance to one's personal work, or to the solution of diverse preoccupations. Following the instructions is felt as a hindrance when it is not practiced because it then appears as difficult. Yet, when the subject works on it the feelings of difficulty disappear. But when he stops working, he forgets the ease of the method. Moreover, the use of this method may give the strength to pursue a task. For instance, two of the subjects mentioned this and many of them found the solution to problems that they thought insurmountable.

This allows us to understand the second reason for spontaneous lucidity arising among the subjects who had not completed the test. When someone asks himself if he is dreaming or not, he very often takes a new point of view of familiar situations. Some subjects have found advantages to this way of thinking. Afterwards they have spontaneously used this method in other circumstances. This attitude change is probably the cause of these lucid dreams for the subjects who had never had such dreams before.

We have, therefore, different types of reactions and/or different types of individuals. First, the people for whom Tholey's instructions are natural; second, people who discover the applicability of it for their everyday life, and so they spontaneously adopt.

What has been said concerns observations from a great number of subjects who were individually questioned. This kind of work indicates directions for research not implicated by the statistical analysis. For example, proposing a simplified test to subjects

who have the profile given above, with the hope that we would obtain better results. Another possibility is to prepare the subjects in terms of these specific points before offering them the method for inducing lucid dreams.

Dane: What would be nice to know is the exact number of each type of subject for whom you're getting success. I think you're saying that the people in between have more trouble. Those are the ones that didn't seem to get the results. They just stopped doing the technique.

Price: Another thing that this finding, if it holds up, could provide is a way of screening subjects with psychological assessment devices to see who holds these types of attitudes, to predict their success with a particular technique.

Dane: I think Christian's findings will hold up. I think he may have something, as it seems parallel to Jayne's finding that frequent lucid dreamer's are characterized by "risk taking" as defined on the scale which Bob Van de Castle and I developed. We had defined it more as a sense of "adventuresomeness", which according to Hilgard, is also a characteristic of those with high hypnotic capacity. Intuitively, there seems to be some parallel between a sense of adventuresomeness in life and what Christian describes as living or seeing life as if it were a game or a play on the stage.

Bouchet: Roger analyzed some of the data on some of the successful subjects for that same study. He will comment on those findings as well as those for another group.

Ripert: Research in sleep and dream laboratories on lucid dreaming (LD) means having experienced lucid dreamers, capable of inducing lucidity in experimental situations. Consequently, the development of an efficient induction technique is crucial.

The Combined Reflection Technique developed by Paul Tholey apparently gives good results, as ordinary dreamers were reported to obtain their first lucid dream after 4-5 weeks of practice. Thus we decided to test this method.

This technique is based on the principle of a transfer from waking to dream, of a critical-reflective frame of mind concerning one's state of consciousness. This frame of mind is developed during the waking state and also calls for formulating intention (as in LaBerge's MILD technique) and internal programming of a specific action (as in Don Juan's teachings).

For this study, 13 subjects, aged 20 to 50, tested Paul Tholey's Combined Reflection Technique over a period of 5-6 weeks. Each participant received:

- a list of 9 instructions;
- a daily checklist of instructions carried out;
- a self-reflection scale (developed by Sheila Purcell) allowing the subject to score his

dreams according to their degree of lucidity;

- a complementary instructions as how to keep a dream diary and suggestions to help remember dreams (as per Patricia Garfield); and
- a questionnaire to be filled out at the end of the experiment. The results are given in Table 1.

The subjects met with some difficulty comprehending the instructions and dealing with the amount of work involved. Consequently, they often only carried out part of the directives. Nevertheless, of the 13 subjects who completed the experiment, 7 out of the 8 subjects who had already experienced lucid dreams increased their LD frequency during the test. In addition, one of the 5 persons who had never had lucid dreams before did experience several during this period.

Preliminary statistical analysis indicated that there is a correlation between:

- the frequency of LD during the experiment (F2), the number of critical questions in induced imaginary situations (Q3) and the number of times lucidity was programmed before going to sleep - this is particularly significant for the ordinary dreamer who attained lucidity during the test;
- the number of critical questions (Q1,Q2) and the number of inductions in the early morning hours (P2). For four subjects who had already experienced LD, this technique was often successful.

Although no firm conclusions can be drawn, due to the limited number of subjects, we can say that the most efficient techniques appear to be asking the critical question in ordinary waking or in induced dream-like situations and LD programming before going to sleep for ordinary dreamers or LD programming in the early morning hours for those who had already experienced lucid dreams.

As Paul Tholey emphasizes, it is not so important to frequently ask oneself the critical question as it is to develop a permanent critical attitude towards one's state of consciousness.

Several of the lucid dreams obtained were published in *Oniros* bulletin (Editors Note: This French language publication is available from: Roger Ripert; Centre Oniros, B.P. 30, 93450 Ile St. Denis, France).

Table 1

Variables	F1*	F2	Q1	Q2	Q3	P1	P2
Subjects							
1	4	51	19	0	0	5	2
2	4	33	75	14	3	40	6
3	2	18	150	3	0	13	1
4	0	0	57	0	0	0	0
5	0	300	76	10	180	38	2
6	23	60	160	63	35	10	24
7	0	0	38	44	13	21	7
8	0	0	125	34	14	30	11
9	250	255	136	1	0	0	4
10	0	0	55	0	0	0	0
11	2	248	177	17	4	12	1
12	6	64	133	39	0	21	4
13	4	4	100	2	1	27	3

* F1 = average number of LD per week before the exp;
 F2 = average number of LD per week during the exp;
 G1 = number of times the subject asked himself the critical question, "Am I dreaming, or not?", in ordinary situations (theoretically, 5-10 times a day);
 G2 = number of times the subject asked himself the critical question when in situations characteristic of dreams in general or of repetitive amotional dreams;
 G3 = number of times the subject asked himself the critical question while in induced dream-like situations;
 P1 = number of times lucidity and a particular action were programmed before going to sleep;
 P2 = number of times lucidity and a particular action were programmed after awakening in the early morning hours.

Price: Joe would you like to comment on your results? And could you say a little bit about the second question. How universal do your results suggest the lucidity potential to be?

Dane: Remember my results are with non-lucid dreamers. However, they are a select portion of the population in that they are all in the upper 50th percentile on hypnotic susceptibility. So we still need to do similar experimentation with the other half of the population. None-the-less, it's now clear that within the laboratory context lucid dreaming can indeed be trained, and with "punch", if you will. In one night you can get folks hopping to it!

I like Stephen's description of the problem of whether lucid dreaming is universal or not. Probably everybody can swim or ride a bike or whatever, within certain limitations, such as do you have the physiological capacity for it, whether or not you're exposed to the opportunity to do it, whether or not you have had any prior experiences that would make that kind of activity attractive for you, etc. For example, have you ever been pushed in the water and nearly drowned? If you have, you're not going to enjoy swimming. So it would be if you've had bad nightmares, such as the Viet Nam veterans. I think Ken Dennis was talking about wanting to talk with Viet Nam veterans and train lucidity in those *who* are having repetitive traumatic nightmares. Their response was, 'Hell, no. I don't want to go back into those nightmares. I want them stopped.' Ken mentioned a woman that was having dreams about two friends being killed on motorcycles. Her fear was that going back into that dream would simply be a revivification of something that she couldn't change in the dream any more than could she change it in waking life. So it wasn't attractive. In any event, probably most people can, to some degree, swim, ride a bike or have a lucid dream. But how motivated are they? How trained, etc?

One thing I'd like to do first, is to clarify the techniques we used which were effective; what some of the results were; and tease out some specifics. In the first phase of our work, we used Stephen's MILD technique and an earlier version of post-hypnotic suggestion with 20 experienced lucid dreamers. With respect to the MILD, there was one consistent finding within the experimental context, which was consistent with Roger's findings and also consistent with what Ken Moss was telling me. However effective MILD may be in the long term, it seems to be very cumbersome for use in an experimental context. Out of Roger's 83 initial participants, only eight actually completed the suggested techniques. Likewise, I asked 10 in my group who were going to use the MILD to use it on any 7 out of 12 consecutive nights. Nobody could do it. And these folks were motivated. But they were honest about whether they were doing it or not. Six was the maximum number of nights anybody could do it in the assigned time frame. So there seems to be something to be learned there if you're wanting to produce results in the lab immediately.

In the second phase of our work, I described the methodology earlier, we found that both waking suggestion and waking suggestion in combination with post-hypnotic suggestion were effective with formerly non-lucid, hypnotically susceptible females. So under the right circumstances, both post-hypnotic suggestion and waking instruction can

be effective for lucid dream induction. With post-hypnotic suggestion, what seems to be working is, first, you give the post-hypnotic suggestion to have a lucid dream. You implant the direct suggestion. The other thing you seem to be doing is actually inducing changes in the dream content. You're alerting the dreamer to what's happening in the dream and that becomes a cue. It's a little bit like classical conditioning, if you will. And even that is just another way of looking at post-hypnotic suggestion. In my study, I used a (hypnotically) receptive state, to establish the dreamer's receptiveness to recognizing, or giving importance to, a dream symbol. Now with respect to that, out of the 15 hypnotic subjects or people who were exposed to hypnosis, ten had a dream symbol in their dreams. And in 7 of those instances the dream symbol was related to inducing lucidity. So we were changing the dream content with post-hypnotic suggestion.

For example, one woman had a hypnotic dream about a woman who was spinning round in a black cape. That was her hypnotic dream about hypnosis. Now this was a young woman who was going to be a psychology major. But she was also very diffident towards me and this whole idea of lucid dreaming. There was a curious sort of juxtaposition between her espoused interests and the fact that she would kind of down play the whole idea of the significance of dreams. Talking about the idea of lucidity, its application for personal growth, etc., these things just didn't work right with her. So I asked her a bit more about the hypnotic dream, and she said, 'Well, I was kind of over in my little world looking down on her, looking down on this woman who was spinning around in a black robe. ' My association was, "Wow, she's looking down on that woman who is kind of an archetypal image of trance induction (whirling dervishes, etc.), and I feel like she's looking down on this whole experiment." When I shared my impressions with her, she bought the idea and in fact said her family was pretty much fundamentalist and thought of her interests in the powers of the mind as a "black force" in life. On the last night during hypnosis, she did in fact encounter that symbol, and asked for its assistance in enlisting a lucid dream. In her subsequent lucid dream, she reported, "...we (the experimenter and the subject) were talking and there was a woman that we both saw go into the basement of a church. And in the dream I said, ' I want to find out if that woman flew last night.'" This was presumably because part of the hypnotic suggestion was to 'turn off the automatic pilot in your dreams and to fly with awareness. ' In any event, she recognized, "Wait a minute, there's nobody else in this experiment. There's just me. This is a dream." And she said to me in the dream, "I'll go and find her." And she did. She went down to the basement and asked the woman, "Did you fly in your dreams last night?" And the woman said something like, "You know, it's just amazing what you can do if you just broaden your perspective." And there, the dream ended.

In other words, there are numerous examples where the symbol itself did not necessarily appear in the dream, but where the dream content or interactions seemed to clearly allude to the dream symbol.

Now, by contrast, you don't seem to change the dream content with waking

instruction. It's more like Tholey's Hypnogogic Imagery State and what other people have talked about, where you're establishing sensitivity to sleep onset phenomena and then, similar to biofeedback technique, you extend that sensitivity into dream awareness. So you establish sleep onset awareness, and then extend that into dream awareness.

With respect to comparing the effectiveness of post-hypnotic and waking suggestion for lucid dream induction, there were an equal number of subjects who were successful with both techniques. However, five very important post hoc measures indicted that, from a qualitative point of view, the hypnotically associated lucid dreams were far superior to non-hypnotically associated lucid dreams: (1) they occurred more frequently in late REM periods; (2) they lasted longer; (3) they required less work by the experimenter; (4) post-experimental lucid dream frequency was greater; and (5) the personal relevance and intensity of the lucid dreams were greater.

LaBerge: I'd like to make one final observation based on the work that Jayne summarized on personality differences. The first thing she said is that the variance accounted for by personality factors is very small. What does that mean? It means all of the major variance has got to do with factors like interest. It's like, if you looked at the personality of piano players, you wouldn't get very interesting results. Because there are lots of different reasons why you might or might not play the piano having to do with your family and so on. I think the same thing is true of lucid dreaming, that the capacity is general, that everybody could develop it. The question is, are they interested in doing so.

Price: I would agree with that and just say, three general factors seem to contribute to increasing ones chances of becoming lucid. First, the dreamer must value his or her dream life and develop good dream recall, perhaps by keeping a journal. Secondly, one must be very motivated to achieve the state. They have to have some understanding of what they are trying to achieve and really want to do it. Thirdly, they need some method or technique to trigger the state, whether it be through lucid awareness to develop long term lucidity, an intention procedure, or a cue-REMinding procedure to trigger it during a particular night.