Chapter 5

Lucid Dreaming

Our truest life is when we are in dreams awake.

Henry David Thoreau

There have been three major breakthroughs in the scientific study of sleep and dreaming over the past century: (1) *The discovery of the reticular activating system (RAS)* in 1949 by Giuseppe Moruzzi and Horace Magoun (Magoun 1953). The RAS regulates arousal and the sleep-wake cycle, as we mentioned in the last chapter. (2) *The discovery of the rapid eye movement (REM) sleep stage* by Eugene Aserinsky and Nathaniel Kleitman (1953). Rapid eye movements are correlated with fast wave electrical activity across the cortex, as we also mentioned in the last chapter. Finally, (3) *the "discovery" of lucid dreaming*, the experience of coming awake in a dream. I want to devote this chapter to a discussion of the third "discovery," lucid dreaming, for it impacts directly upon our understanding of the experience and significance of dreaming cross-culturally.

Lucid Dreaming

I have put "discovery" in quotes when speaking of lucid dreaming, because I wish to emphasize that the only discovery involved was on the part of dream researchers, not dreamers in polyphasic dream cultures who simply take lucidity for granted, or for that matter not dreamers who have explored their dreaming and written about their findings over the decades. Lucid dreaming was first labeled as such and considered clinically significant by a Dutch psychiatrist named Frederik Willems van Eeden (1860-1932; van Eeden 1913) and first considered scientifically by Celia Green in her 1968 book, *Lucid Dreams* (Green

1968). Others in the 19th and early 20th centuries described lucidity in reporting their dreams; e.g., Mary Arnold-Forster (1921) in her book *Studies in Dreams* which recounts experiments in autosuggestion leading to incubation and lucidity, and the Marquis d'Hervey de Saint Denys in his 1867 book *Les rêves et les moyens de les diriger; observations pratiques* (now published as *Dreams and the Means of Directing Them*; de Saint Denys 1982; see also Hobson 1988:34) which describes the results of dream incubation and lucidity.

What then is lucid dreaming – or at least as far as science is concerned? A dream is lucid if *we are aware within the dream that we are dreaming and that we are not awake* (Green 1968; Gackenbach 1991a; Gackenbach and LeBerge 1988; Snyder and Gackenback 1991:55; LaBerge 1985:2; Tedlock 1999:94). Usually something causes us to wake up in a dream, almost always during the REM state (Ogilvie *et al.* 1978, 1982; LaBerge 1990; LaBerge *et al.* 1981), and we become aware that we are awake and that we are dreaming. There is a lot wrong with this definition of lucidity from an anthropological point of view, not the least being its inherent ethnocentricity. It assumes a culture in which waking states and dreaming states are distinct, one being associated with active awareness and the other not. We would hardly expect that kind of distinction to be made by folks brought up in a fully polyphasic culture. Moreover, it assumes that one "wakes up" in what passes for "normal" dreaming in Western society, and that this is a rare event. And, perhaps most importantly, a dream can include intervals of lucidity without "finding your hands" or other methods researchers use to increase awareness in dreams (see Price and Cohen 1988). But we will get into this later after we look at the state of lucid dream research a bit more closely.

There is currently a great interest in lucid dreaming among researchers. Certainly the premier lucid dream researcher today is Stephen LaBerge (b. 1947) who took his Ph.D. at Stanford University in 1980 on the topic of lucid dreaming. He has shown that lucid dreaming can be a learned skill (1980), has led the way in developing techniques for eliciting lucidity in dreamers for research purposes (1985, 2009), and has demonstrated that lucid dreamers can communicate with researchers while still dreaming, thus enabling confirmation of lucidity states with measures of psychophysiology underlying sleep stages (LaBerge 1990, 2010; LaBerge *et al.* 1981).

Moreover, for the purposes of this book, LaBerge has developed a theory of dreaming in keeping with the thesis I am trying to build – namely that dreaming is another domain of experiences had by the brain that produces and consumes them, and that hard and fast distinctions between waking and dreaming are not phenomenologically accurate (LaBerge 1994). "In our view, the distinction between lucid and nonlucid dreams is not as clear-cut as the definition suggests and fails to do justice to the subtlety of the actual experience. We feel the contemporary distinction has misplaced focus away from what we consider the essential variations in dream cognition underlying dream lucidity" (LaBerge and DeGracia 2000). As icing on the cake, LaBerge manifests a healthy scepticism similar to my own of the "Rube-Goldberg contraption" that is Freudian dream theory (LaBerge 1994:28).

Lucid Dream Experiences – A Sampling of Motifs

But before we get further into the theoretical stuff, let me give you a sample of lucid dream reports out of the literature and my own experiences so that we have a common ground for thinking about the topic. Hugh George Callaway (1885-1949) was an English writer and occultist who was also an avid lucid dreamer from an early age. Under the pseudonym, Oliver Fox, he published many of his experiences with *out-of-body-experiences* (OBEs) in articles that were later republished after his death in a book with the unfortunate title, *Astral Projection* (1962). Here is his report of his first lucid dream, had when he was sixteen (c. 1901; ibid:32-33):

> I dreamed that I was standing on the pavement outside my home. The sun was rising behind the Roman wall, and the waters of Bletchingden Bay (sic) were sparkling in the morning light. I could see the tall trees at the corner of the road and the top of the old grey tower beyond the Forty Steps [in Southampton, England]. In the magic of the early sunshine the scene was beautiful enough even then. Now the pavement was not of the ordinary type, but consisted of small, bluish-grey rectangular stones, with their long sides at right-angles to the white kerb.

> I was about to enter the house when, on glancing casually at these stones, my attention became riveted by a passing strange phenomenon, so extraordinary that I could not believe my eyes – they had seemingly all changed their position in the night, and the long sides were now parallel to the kerb! Then the solution flashed upon me: though this glorious summer morning seemed real to me, I was *dreaming*! (emphasis by Fox)

Note that it is a discrepancy between an expectation appropriate to the waking life and what he was experiencing that awakened his critical faculties to the extent that he realized he was dreaming. LaBerge (1985:30) quotes a dream had by van Eeden that illustrates this classic feature of lucid dreams:

> ...I dreamt that I stood at a table before a window. On the table were different objects. I was perfectly well aware that I was dreaming and I considered what sorts of experiments I could make. I began by trying to break glass, by beating it with a stone. I put a small goblet of glass on two stones and struck it with another stone. Yet it would not break. Then I took a fine claret-glass from the table and struck it with my fist, with all my might, at the same time reflecting how dangerous it would be to do this in waking life; yet the glass remained whole. But lo! When I looked at it again after some time, it was broken.

Notice that van Eeden twigs that he is dreaming and exercises his will within the dream, but notice also that there is an obdurate quality to the dream production – the systems mediating the dream resist his will, at least for a time. In both Buddhist and Jungian dreamwork, the over-zealous exercise of will may actually interfere with symbolic communications from the depths (i.e., the unconscious).

Flying and sexual arousal are two common features in dreams of all sorts, and particularly in lucid dreams. LaBerge (1985:83) shares a dream had by Miranda, one of his laboratory dreamers who had been instructed to signal when she was in a lucid state, and then again when she had a sexual experience with a male:

> Miranda had a three-minute lucid dream in which she successfully carried out the experimental task – exactly as agreed upon. In her report, she said that she seemed to be lying in bed still awake, with someone's hands rubbing her neck. Recognizing the improbability of someone being in her room, she suspected she was dreaming, and tested her state by trying to float into the air. As soon as she found herself floating, she was convinced she was dreaming and made the agreed-upon signal as she floated through her bedroom wall. Finding no one in the polygraph room, she proceeded through an unopened window outside. Continuing to fly, she found herself over a campus resembling Oxford and Stanford.

The dream continued with Miranda finding a random male and signaling her intention to begin a sexual adventure, had an orgasm, signaled again to the researchers, and woke up. Of course, Freud did link flying and sexuality, and this may well be the case for many Western dreamers. But flying is also a common motif in the dreams of non-Westerners and quite likely has no sexual over- (or under-) tones. Notice also that the dream body is able to pass through apparently physical barriers at will.

Flying into "outer" (some like myself would interpret "inner") space is an adventure I have had many times over the years, especially when I was involved in doing what is sometimes called "star group" meditations.[1] Here is one such dream reported by Robert Waggoner (2009:36):

> There are many people around, like a family dinner or picnic. Somehow I become lucid and find that my flying control is excellent. I effortlessly fly from room to room with grace, precision, and awareness. I play around with moving objects in the rooms. One woman notices me and acts seductively. I choose to ignore her. I think about what to do and decide to try to fly out into the stars. I begin to fly and keep flying and flying. I'm

[1] There are, no doubt, many names for this kind of meditation. A group of people sit around holding hands and meditating upon a real or imagined (seems to make little difference which) blue light above and in the center of the group. Experiences often involve flying and trips into outer space.

> astounded! I can't believe how far I'm going and everything stays the same. ...I continue flying into outer space. I begin to fly past planets. This is incredible! Finally, I decide to stop. I look down about forty degrees and there's a large planet with rings and four moons. I notice that two of the moons seem to have ghostly rings around them while others don't. The main planet's ring is kind of orangish gold. Two of the moons are to the right, with a third almost halfway behind the planet. The fourth moon is on the left side of the planet. I marvel at the profound sight of seeing an entire planet hanging in space. It's so incredibly silent and still. I decide to keep going, and do, but don't find anything new, so I turn back with the intent of flying through the outlying rings of the planet. I head toward the rings and, as I do so, I begin to feel energy hitting me as I move through the ring. (Here, I believe I momentarily lose my lucidity or have a total scene shift.) I am back on Earth, still flying. It occurs to me that this has been quite a long lucid dream.

Notice that in his dream, he exercises control, a major factor for those exploring lucidity for its own sake. In doing so he chooses not to embrace other opportunities, such as the woman who notices him and acts seductively – which in, say, Jungian dreamwork might be considered an invitation to engage his anima (see Chapter 10). This exercise of control for control's sake is distinctly Western, and may in fact interfere with the flow of the dream (Hunt 1989:120), something that is less likely to occur in non-laboratory, non-Western circumstances.

During the period of my life when I was engaged in intensive meditation in the Tibetan Tantric Buddhist tradition (see Chapter 13), I spent a lengthy retreat completing a basic "foundation" practice called the "mandala offering" (Tib. *kyil khor*; see MacDonald *et al.* 1988 on the use of mirrors in shamanic traditions generally). I made a contraption out of the glass from a round shaving mirror glued to the bottom of a small bowl. Gripping the upside down bowl with the mirror-side up in my left hand, I built a mandala from saffron-dyed rice held under the mirror in a plastic tub. I would build the sacred landscape of Mount Meru and other features while reciting a mantra, and then wipe the mirror clean (rice falling back into the tub) and start building the

mandala all over again. Over and over, 100,000 times I repeated this ritual for an average of 12 hours a day until it was completed.

You will not be surprised to learn that the mirror and saffron rice imagery penetrated into my dream life where I had repeated experiences in which I was aware I was dreaming and was watching my mind build all sorts of figures out of saffron-colored particles – like Lego blocks — often emerging out of bodies of water (pool, lake, sea) and I (dream-ego indistinguishable from waking-ego) was sometimes aboard a boat. I recall sailing through a placid sea with gigantic "icebergs" made of saffron bits floating by. I was often aware within the dream that the intent of the practice was to see that my mind built things out of particles, and that the mirror itself was the mind of "pure" potential out of which the particle forms emerged and then dissolved. Some of the experiences were emotionally positive, others negative. Moreover, the images constructed before my dreaming eye were often communications from the "inner teacher" using shared meanings and motifs. The Buddhist practice in this dream context is just to watch what arises with as much awareness as possible and with the least interference from the dream-ego.

Without, I hope, sounding patronizing, if one has not experienced a lucid dream, then one will have little idea of just how "real" a dream experience can be. This is no different than saying that if one has not been on a magic mushroom trip, one cannot know what it is like – or a high altitude gas balloon flight, or scuba diving, so forth. In lucid dreaming one often has the sense of being *more* awake and aware in the dream than in waking life – something I also have experienced while scuba diving. With respect to dreaming, I suspect this is due in part to the simplified neural systems that mediate the dream "movie." Everything in a stage play is significant and part of the plot line – as Chekhov once put it, "One must not put a loaded rifle on the stage if no one is thinking of firing it." There is far less available in the dream upon which to focus awareness. But the sense of heightened awareness can be numinous. LaBerge (1997:30) quotes a dream report from the mathematician J. H. M. Whiteman (1961:57):

> After [attending a concert by a celebrated string quartet]... I remember going to bed with mind peacefully composed and full of a quiet joy. The dream, during the night that followed, was

> at the beginning quite irrational, though perhaps more keenly followed than usual. I seemed to move smoothly through a region of space where, presently, a vivid sense of cold flowed in on me and held my attention with a strange interest. I believe that at that moment the dream became lucid. Then suddenly,... all that up to now had been wrapped in confusion instantly passed away, and a new space burst forth in vivid presence and utter reality, with perception free and pin-pointed as never before; the darkness itself seemed alive. *The thought that was then borne in upon me with inescapable conviction was this: "I have never been awake before"* (emphasis mine).

Ritual Control of Experience and Incubating Lucid Dreaming

As anyone knows who has taken interest in their dream life, all it takes to increase dream recall is the intention to do so. The mind and its consciousness tend to follow intention. The more interesting a thing becomes, the more awareness and knowledge, and even neurocognitive development accrues in that domain. It is true to say that literally anything one turns one's interest towards can become a portal into a vast domain of experience and realization. Become interested in postage stamps and pretty soon you are haunting stamp shops, stamp shows, reading stamp magazines, etc. The same is true of dreaming.

There are many techniques available for increasing dream recall (see e.g., Fox 1962; Garfield 1974; Gackenbach and Bosveld 1989; Waggoner 2009:265-268). All one needs to do is Google "dream recall" to find all kinds of on-line approaches to dreaming. Methods include laying a tablet and pen beside the bed at night and concentrating upon remembering one's dreams just before drifting off – in other words, *autosuggestion*. An expert can hypnotize a person and lay in appropriate post-hypnotic suggestions. One can drink a half glass of water while telling oneself to recall a dream and then finish the water first thing upon waking. The techniques are many and some are very old, for what one is doing in a sense is rediscovering ancient ritual techniques used to incubate dreaming (see Chapters 4 and 7

on dream incubation). The point to underscore here for ethnologists is that cultural symbols and expectations, ritual practices, personal intentions, events happening during the day, emotional turmoil, all of these things can penetrate into and influence what happens in the dream life (LaBerge and Rheingold 1990). The permeability and interpenetration of SOC is the most important factor in understanding ancient oracles and other methods used to stimulate visions and dreams during initiation ceremonies.

Many techniques for stimulating engagement in and recall of dreams operate by decreasing the abruptness of the *warp* between SOC (Laughlin, McManus and d'Aquili 1990:142). Every transition from one SOC to another involves a relatively rapid reorganization (or warp) of the neural systems mediating consciousness. We can say that one SOC "warps" into another SOC. Sleep onset and its associated hypnagogic are an example of a warp. It normally happens in just a few seconds. The problem in increasing awareness in dreams is a problem in transferring information across the warps between sleep stages. Nothing really "moves," of course, from one SOC to another. The neural system mediating the dream state must retain enough of the structure of the preceding state so that it is available during the dreaming. For instance, one has to keep the intention to wake up in the dream, or communicate with researchers during the dream, as part of the new organization of the neural system mediating the dream. The challenge is to literally *re*-member the intention. Advanced methods of ritual control over dreaming operate to minimize the reorganization of SOC on each side of the sleep onset warp (see Chapters 7 and 13 for examples).

Very few people in our culture experience spontaneous intervals of lucidity in their dreams (LaBerge 1985). We have already discussed why this happens – in a word, it is because we are culturally conditioned to disengage our prefrontal cortex from the neural organization mediating dreams (see Chapter 4). Henceforth when I speak of "lucidity" in dreaming, or "going lucid," or "being lucid," or having a "lucid dream," I am implying an increased involvement of the PFC. My claim is that there is no lucidity without PFC involvement (see Hobson, Pace-Schott and Stickgold 2003:45). So, the trick in producing lucidity is to reverse this lifelong habit and increase PFC involvement. We take our first

steps when we increase our interest in the process – that by definition activates PFC processes, at least in the waking state. Thus, the games we have to play in order to increase lucidity may be fairly strenuous for some. To learn to become lucid in our dreams is valuable enough, but for ethnologists the experiences gained will enable one to better empathize with and understand our informants in polyphasic cultures where some degree of lucidity is the norm. Ethnologists capable of lucid dreaming, like Barbara Tedlock (1999) and Fernando Santos-Guereros (2003), are worth many times their weight in Boases and Tylors, at least to the ethnographic study of dreaming.

Within the literature on lucid dream research are to be found a number of techniques for incubating lucidity (LaBerge 1985, 2009:Chap. 3; LaBerge and Rheingold 1990; Waggoner 2009; Green 1968; Tholey 1983). These techniques are extensions of those designed to increase dream recall, but the challenge for Westerners is, as I have mentioned before, daunting. Yet the challenge can be met and surpassed. The methods used are generally variations on the *ritual control of experience* (Laughlin *et al.* 1986).

What do I mean by "ritualizing" and "ritual?" And what do I mean by "control?" *Ritualization* refers to the universal tendency of animals to routinize a sequence of behavior for the purpose of completing a task or communicating information. Ritualization may or may not be conscious to the animal – it probably is not. It is just a sequence of behavior that they either inherit or develop that gets something done or communicated. Examples are threat displays among gorillas, pre-copulatory displays among birds, shaking hands among some nearly-hairless apes, "sings" among coyotes, etc. We take the same route to school or office, we tie our tie in the same way every time we are unfortunate enough to have to wear one. *Ritual* is a more complex form of ritualization and is more likely to be conscious to the animal, as for example in a "rain dance" among chimpanzees, or group hunting strategy among arctic wolves, or morning bathroom rituals among nearly-hairless apes. *Ceremonies* are very formalized, often complex rituals carried out only by nearly-hairless apes with a great deal of awareness and cultural significance; e.g., the Catholic Mass, a wedding ceremony or funeral. Ceremonies are cognized as a special event, generally are named ("we're going to Mass," "we're sitting shiva"), and are distinct from other

events and behaviors. "One may trace the evolutionary progression of ritual behavior [among animals] from the emergence of formalization through the coordination of formalized communicative behavior and sequences of ritual behavior to the conceptualization of such sequences and the assignment of symbols to them by man" (d'Aquili, Laughlin and McManus 1979:37).

Control means that ritual is used to exert influence over neural processes to intentionally produce a desired experience. Ritual action in the waking state can produce experiences had in ASC, and in particular, dreaming. Ethnographically speaking, rituals of this kind, as well as more elaborate ceremonies, are a cultural universal. All human societies perform ceremonial rituals and most of these are integrated within a cosmological system involving myth and spiritual practices (see Chapter 8 on the "cycle of meaning"). When societies consider it important for a person or group to have a specific experience – usually for spiritual or initiatory purposes – they position a ritual before the experience in order to incubate the desired qualities and content of the experience. The ritual may incorporate drivers such as psychotropic substances, repetitive activities like dancing, chanting, drumming, praying, flickering lights, etc., dramatic enactments such as mystery plays, masked dancers, etc., or ordeals like long distance running, physical pain (wearing a shirt into which angry hornets have been sewn, putting hooks in the breast and hanging from a tree limb), or doing scary things like jumping out of a 70 foot tree with a 60 foot rope tied to the ankles (Laughlin *et al.* 1986; Winkelman 2010). Ritual preparation for an experience may be understood psychophysiologically as a means of warp control – setting things up for the proper transformation of neural systems mediating a "peak" experience valued by the people.

The ritual incubation of lucid dreams rarely requires such radical and arduous activities, although participation in such rituals will not leave the dream life unaffected. But the principles are much the same, as we shall see in Chapter 13 when we discuss meditating one's way into the dream states. Stephen LaBerge uses a method of lucid dream incubation he calls *mnemonic induction of lucid dreams* (*MILD*). The method simply applies ritualized mnemonic devices like many of us use to remember people's names. One visualizes the thing you will be later doing in the dream when you wish to become lucid, or remember to do

some task. "The visualization that I use to organize my intended effort is: 'Next time I am dreaming, I want to remember to recognize I am dreaming.' The 'when' and 'what' of the intended action must be clearly specified" (LaBerge 1985:140). LaBerge goes on to break his method down into several steps (ibid:141):

1. During the early morning, when you awaken spontaneously from a dream, go over the dream several times until you have memorized it.
2. Then, while lying in bed and returning to sleep, say to yourself, "Next time I'm dreaming, I want to remember to recognize I'm dreaming."
3. Visualize yourself as being back in the dream just rehearsed; only this time, see yourself realizing that you are, in fact, dreaming.
4. Repeat steps two and three until you feel your intention is clearly fixed or you fall asleep.

MILD is a straightforward way of ritualizing the control over the sleep onset warp, pairing a rehearsal of dreaming with an intentional task. Visualization practices in incubation are common cross-culturally, and may or may not be evoked by ritual drama or some other external stimulus.

Psychologist and dream researcher Paul Tholey (1937 - 1998) developed a set of methods for incubating and manipulating lucid dreams. One of these is called the *reflection technique* (Tholey 1983a) which was tailored to both increase awareness during dreaming, and also to maintain awareness while entering sleep onset – the latter being important to such practices as Tibetan dream yoga (see Chapter 13). This "...technique rests on the following basic assumption. If a subject develops while awake a critical-reflective attitude toward his momentary state of consciousness by asking himself if he is dreaming or not, then this attitude can be transferred to the dream state" (ibid:80). Again we have cross-warp transference of information. One should ask this question – am I dreaming? – as often as possible, especially near the time of falling to sleep, and during any waking experience that resembles a dream. Associating the "critical" question with a potential dream scenario helps to incubate one's first lucid dreaming experience, while repetition of the question proximal to sleeping increases the incidence of lucidity that night.

Another of Tholey's methods is called the *intention technique* in which one "should try as intensely as possible to imagine that he is in dream situations which would typically cause him to recognize that he is dreaming. Even better would be an attempt to carry out a simple action in the dream simultaneously" (ibid:80). This is a rehearsal technique that ritualizes an association between an act, like looking for one's hands in the dream, with dream-typical situations in the waking state. Yet another method mentioned by Tholey is a very common one that he calls the *autosuggestion technique*. Referring back to Heinrich Juergens' first use of the term autosuggestion in his 1953 work, *Traum-Exerzitien* [Dream Exercises], Tholey notes that "the subject suggests to himself, if possible immediately before falling asleep and while in a relaxed state, that he is going to experience a lucid dream. A conscious effort of will must be avoided. ...The effectiveness of suggestive formulas can be improved by employing special relaxation techniques" (ibid:81).

Psychologist Robert Waggoner, himself a lucid dreamer of no mean ability, used LaBerge's MILD technique to good effect, and reports on Tholey's and other techniques as well (2009:268-281). Among other things, Waggoner notes that the following methods and tips seem to help some dreamers reach lucidity (ibid:73-74): Sleep in a different location; vacations, holidays and other changes in daily routine; taking up yogic practices; being in a positive mood; excessive physical and mental activity during the day; making certain dietary changes; taking certain vitamins; changes in the weather; and sleeping in particular locations like sacred sites.

Psychological Theories of Dreaming and Lucidity

Lucid dream research has given rise to a raft of theories of dreaming and lucidity. Let us touch on several of these by those psychologists who (1) are themselves lucid dreamers, (2) have a deep interest in lucid dreaming and (3) have spent years researching dreams and dreaming in sleep labs or work with children. These are the psychologists who are likely to be of the greatest interest to us as we move on to considering dreaming cross-culturally. There are other psychological theories that

do not take neuroscience, development and the role of awareness into consideration in their thinking about dreaming, and those are theories of little interest to us here.

1. Stephen LaBerge: Dreaming and Perceiving. Our premier lucid dream researcher has developed a theory consonant with our own as to the function of dreaming. "I propose that dreams result from brain activities using internal information to create a simulation of the world, much like the process of waking perception, minus sensory input. According to this assumption, human dreaming is the result of the same perceptual and mental processes that we use to comprehend the world when awake. In order to understand dreaming, we need to understand perception, and vice versa: from this perspective, to perceive is to dream. More precisely, perception is dreaming constrained by sensory information; dreaming is perception independent of sensory input, and thus without external constraints" (LaBerge 1994:28).

2. Awareness and Self-Reflection in Dreams. Allan Moffitt, Robert Hoffman and Roger Wells developed a sleep lab back in the 1970s in the psychology department at Carleton University in Ottawa, Canada, where I taught anthropology. A lot of good research was done in that lab, and a number of excellent students emerged from their program, including the late Jon Shearer with whom I wrote my earliest papers on ASC (Laughlin, McManus and Shearer 1983, 1993; Laughlin *et al.* 1986). Another student in that lab, Sheila Purcell, carried out research on the role of self-reflection in dreams (Purcell *et al.* 1986; Purcell, Moffitt and Hoffman 1993). She and her colleagues have shown that the degree of self-awareness or self-reflection in dreams ranges on a continuum (punctuated by 9 steps) from absence of a dream ego through the presence of a passive dream-ego to full lucidity where the dreamer exerts some degree of control over the content, events or emotions within the dream (Purcell, Moffitt and Hoffman 1993:219). They found that self-reflection during dreaming is a learned cognitive skill, and that the development of this skill has spill-over effects upon waking consciousness. As we also wrote, "The extent of awareness within dream [states] varies enormously, and it is the single most important variable in determining both (1) understanding in and of the dream, and (2) the locus of control of dream content" (McManus, Laughlin and Shearer 1993:38).

3. The Developmental Dimension of Dreaming. A number of lucid dream researchers have recognized that when awareness becomes an ongoing part of any SOC, the SOC will develop cognitively along Piagetian lines (e.g., Piaget 1962; Foulkes 1985). Our own work led us inescapably to this conclusion with respect to dreaming (McManus, Laughlin and Shearer 1993:38): "We are not saying that dream [states] function as a dialogue between, and reorganization of, internal systems only in polyphasic individuals and cultures. Rather, dream [states] operate to reorganize internal systems whether or not the ego is polyphasic. The question is to what extent there is participation by higher cortical processes in all [states] of consciousness" (ibid:40). It is important to mention that lucid dreaming *per se* is not inevitable in any particular individual, or for that matter in any particular social group.

David Foulkes has done remarkable dream research with children, and from this perspective he reasons that "dreaming is simply the operation of consciousness during sleep (and some other states), and I observed that dreaming develops more slowly and later than is generally believed" (1999:146). He hypothesizes that as consciousness develops via Piagetian stages, the complexity of consciousness will influence the complexity in all SOC, including dreaming. It is not clear to me, however, to what extent Foulkes appreciates Piaget's notion of *horizontal decalages*. Jean Piaget held that development across experiential domains or tasks is usually uneven with cognitive processing being relatively advanced in one domain and relatively primitive in another domain (Piaget 1941; Kreitler and Kreitler 1989). It is my contention that the neural organization mediating any specific SOC will undergo development, whether it be experiences under the influence of psychotropic substances like the lifelong use of *ayahuasca* by Brazilian shamans, or experiences had while lucid dreaming. To enter apprenticeship to an *ayahuasca* shaman, or to begin a career as a lucid dreamer is tantamount to an invitation to cognitive development in that respective domain.

Following on from the work of Foulkes with children and the Carleton University group, Jayne Gackenbach (1991b:287) argues "that lucidity is only the beginning and that consciousness in sleep, when it arises as part of the natural growth cycle, is both psychologically and biologically a developmentally advanced form of

dreaming." Drawing from the descriptions by experienced meditators, she has hypothesized a five stage model of the development of lucidity in dreaming, all of them being essentially "post-formal operational" stages[2] in the Piagetian sense. I would add to this that culture has an enormous role to play in when and to what extent the importance of dreaming is felt by the individual. Life-long polyphasic peoples will likely manifest far less in the way of severe horizontal *decalages* between waking and dreaming states.

4. Harry T. Hunt and Expanding the Types of Dreams. One of the most refreshing analyses of dreaming is that of cognitive psychologist, Harry T. Hunt, whose book *The Multiplicity of Dreams* (1989) is one of the few treatments of dreaming that considers both lucid dreaming and archetypal structures. This is because Hunt insists that any account of dreaming must take into consideration all types of dreams. In developing a typology, he is also one of the few psychologists or neuroscientists to cover the anthropological literature:

> There do seem to be relatively distinct types of dreaming, each with its own line of development and potentially one-sided exaggeration – as permitted or perhaps demanded by the subjective clouding or single-mindedness of dreaming. There are (1) relatively mundane dreams that seem to be based on mnemonic consolidations and reorganizations; (2) Freud-type relatively fantastic, pressure-discharge dreams, often based on complex rebus-like wordplay; (3) dreams based on somatic states and illness; (4) dreams based on aesthetically rich metaphor; (5) dreams based on problem-solving and deep intuition (perhaps extrasensory?); (6) lucid-control dreams; (7) the variety of nightmare; and (8) a Jung-type archetypal-mythological form of dreaming (Hunt 1989:76; numbering added by author).

These are not exclusive types, but rather natural types with fuzzy boundaries that overlap and intermix. They are in keeping with the position I have taken (Chapter 4) that there is no one

[2] This is a Piagetian way of saying that someone is dreaming quite abstractly.

psychophysiological or evolutionary function for dreaming, but rather multiple functions that come into play depending upon the extent of personal development, the culture of the group and the environmental conditions faced by the person and the group. We will return to Hunt's findings in Part Two of the book when we consider archetypal dreaming (see Chapter 10).

5. Gordon Globus and the Importance of Phenomenology and Creativity. Various authorities over the years have questioned whether true creativity, inspiration or spiritual guidance arises during dreaming. It was Freud's contention that dreams were made up of day residues blended with wish fulfillment. Psychiatrist and philosopher Gordon Globus presents a wonderful critique of the essentially anti-creative views of Freud in his book *Dream Life, Wake Life* (1987). He then goes on to show that dreams are the product of intentionality, thought and abstraction. What populates our dreams are *not* concrete objects from waking life haphazardly arranged, but abstract images that represent the intentional meanings of – sometimes surreal – unconscious thought. As Globus (ibid:61) puts it:

> I have argued against Freud that the creativity of dreaming consciousness is first-hand, "de novo." The role of memory of concrete waking experiences is to provide something abstract (e.g., not a particular horse but the meaning of "horse," not a particular three-phrase movement but the meaning of "three-phase movement"). Other operative meanings are related to both unconscious wishes and unconscious defenses against those wishes which were also active during waking. The life-world of dreams is generated by these active intentional meanings. Lucid dreams demonstrate the creative power of intentionality in remarkable fashion.

As we shall see in the next chapter, Globus argues for grounding our theories of dreaming in phenomenology, and in particular the phenomenology of Edmund Husserl (1859-1938). There must be a "return to the things" in Husserl's sense — in this case a return to the direct experiences of the dreaming life-world, rather than merely to dream reports. It is only through the common ground of the

dreaming *life-world*[3] – the patterns, elements and processes all humans have in common as dreamers – that we can come to understand the significance of dreaming for our species. The abstract nature of dream images is one such common and universal property of dreams.

Robert D. Bruce (1975:43) reports a dream he had while working among the Lacandon Maya: "I dreamed of a large howler monkey (or perhaps a small ape – *actually it looked more like an artist's conception of Zinjanthropus*), a young one clinging to its dead mother, lying in shallow water." Note that the "howler monkey doesn't look like a howler (which abounds in the area where he was living), but more like an ancient hominin. Is this some kind of random mistake? A mere pastiche of ape-like elements? Hardly. Globus would, no doubt, point to this as an abstract image in the sense that it is the representation in the dream of a condensation of meanings in the unconscious. (As my late friend and colleague, John McManus, liked to say, "There are no errors in the unconscious.") I will return to Globus' views in the next chapter.

Summary of the Science of Lucid Dreaming

It seems clear that the involvement of consciousness in dreaming manifests as a continuum of awareness from virtually absent, through degrees of vividness to the occurrence of lucidity, thence to full involvement of the highest cognitive capabilities of the individual. It is also clear that the neuropsychological structures mediating dreams undergo development over time. It is not clear to me that lucid dreamers "control" their dreams entirely – I certainly have never been able to do so — but the self-aware dream ego is certainly capable of guiding events by directing attention to this, rather than that aspect of the unfolding dream (e.g., go down this tunnel and not that one). With respect to the cross-cultural data, one does not run into the exercise of control over dreams very often. I suspect that this emphasis in lucid dreamwork is an

[3] Life-world is English for the German *Lebenswelt*, a concept Edmund Husserl introduced into his phenomenology in his *The Crisis in European Sciences and Transcendental Phenomenology* (1937). The life-world is the ground of direct experience that we all hold in common, which is as close to "objectivity" as is possible, given the inherent subjectivity of human experience.

artifact of Western ethnocentricity. Autosuggestion is another matter, for "flying" shamans will commonly go to sleep intending to travel to a specific place or engage a specific spirit.

I am in agreement with LaBerge (2010) that no hard and fast distinction can be made between "normal" dreaming and lucid dreaming. Rather, one kind of dreaming phases into the other kind of dreaming by degrees, especially outside the sleep lab environment. It is well for anthropologists to remember that most of the subjects of lucid dreaming experiments have been Western university students, presumably conditioned by their upbringing to disattend their dreams. Despite this cultural trend, many do recall their dreams, but they tend on average to be low down on the Purcell *et al.* (1992) continuum. I will go further than this and suggest that in most polyphasic cultures, no such abrupt distinction is made or culturally labeled. That is not to say that other distinctions are not made — traditional cultures frequently do make distinctions and apply their own local dream typologies.

Another thing that we must keep in mind when applying the kind of sleep lab data we have been examining above to the ethnographic situation is that dream reports are at least two removes from the dream. There is the *dream-as-dreamt*, the *dream-as-recalled* and the *dream-as-told* in a natural social setting.

1. The dream-as-dreamt. The dream-as-dreamt is a more or less vivid experience arising in the individual brain, and is mediated by a distinct organization of neural systems. Whether, and to what extent, ego awareness is present in the experience is determined by the organization of the mediating neural systems, in particular the extent to which PFC processes are entrained to the system (see Chapter 4). Involvement of the PFC will bring with it an increase in working memory and a resulting continuity in the "plot line" of the dream. An analogous condition would be that I watch a *Star Wars* movie on the big screen.

2. The dream-as-recalled. The dream-as-recalled is an act of memory in which the content of the dream is literally *re*-called, brought back into the sensorium from short or long term memory storage. The sooner the remembering occurs (such as just after being awakened from the dream in a sleep lab), presumably the more accurate will be the recall. But recall will always be selective, and will tend to highlight dramatic

imagery, significance and emotion. Another analogous condition might be that I play the *Star Wars* movie over and over in my mind as I leave the theater, recalling all the good bits.

3. The dream-as-told. The dream-as-told is the dream report I write in my dream journal, recite to the ethnographer, recount to my family and friends, report to the lab person that just woke me up. The dream memory has been converted into a narrative, a text. Unless I am an artist and draw or paint my remembered dream imagery, my dream report is now inextricably filtered both through the structures of memory and the structures of language. Another analogous condition might be that my friend asks me what the *Star Wars* movie was about and I give him a blow-by-blow description of what I remember about the movie.

Even during the duration of the dream, assuming there is any dream-ego presence at all, it is little different than perception (LaBerge 1985) in that the "searchlight" of awareness will focus here and not there, pick out salient features and disattend others. There is no way we can be aware of everything in the dream any more than we can be aware of everything during waking perception, nor can we recall every nuance of the dream. Our attention and recall are selective, and the set of personal and cultural expectations we bring into the dream will influence the experience, and hence the recall and the telling (LaBerge and Rheingold 1990). LaBerge (1994:30; Kahan, LaBerge and Levitan 1997) has shown experimentally that in effect recall and telling of a lucid dream is little different than recall and telling of the *Star Wars* movie. There is a loss of information at every stage until the telling of the dream is but a shadow of the original experience.

The Anthropology of Lucid Dreaming

The inevitable loss of information between the dreaming and the telling is extremely important for ethnographers to understand, for it may not be possible for a non-dream-recalling, or a non-lucid dreaming fieldworker to discern at which level of the continuum of dream awareness the informant is operating. Put in another way, it is often difficult to determine on the basis of dream reports alone whether the informants were lucid during their dreams. In addition, it is our

Western custom when telling someone about a dream we had to preface our story by labeling it as a dream – we might say something like, "Hey, I had this neat dream last night. I was in my grandmother's apartment and... ." We would never just start out telling someone, "Hey, I was in my grandmother's apartment last night and... ." On the other hand, we feel no such necessity to label a story about something we experienced while awake – we just start off telling the story, like "Hey, I went over to my grandmother's place last night, and... ." Other cultures may or may not signal such a distinction. In many polyphasic cultures making such a clear-cut distinction between dreaming and waking experiences may well not be used, for dreaming and other ASC are considered to be extensions of reality, especially if the dreaming is highly lucid (see Nielsen 1991 on the reality sense in dreaming).

Let us turn our attention to what anthropology has to say about lucid dreaming. What I will endeavor to do is tease out indicators of lucidity in ethnographic dream reports. This is not an easy challenge, for it is unlikely that any ethnographer writing before the mid- to late-1980s had heard of lucid dreaming because the concept had not yet reached a wide audience. And many ethnographers since then have ignored the issue. Thus the distinctions imposed upon dream reports in the ethnographic literature are most often either Freudian – e.g., "manifest" vs. "latent" content, "conflict" or "wish fulfillment" dreams, etc. – or local cultural dream typologies.

To make matters worse, there is a systemic problem of ethnocentrism in how Western psychologists have experienced and defined lucid dreaming. As you can see from the summary of the psychophysiological research above, the emphasis is upon an ego suddenly coming awake in the dream – I am lucid when I become aware that I am dreaming. "I," "I," "I" – a very Western focus on the ego, on the individual having the experience, and especially on *taking control* over dream elements, events, and even plot line rather than upon watching whatever experience unfolds (Hunt 1989:120). Lucid dreams in which there is no emphasis upon the dream ego "doing its control thing" have been called "quasi-lucid dreams" (Purcell *et al.* 1985) or "pre-lucid dreams" (Green 1968:23; Metzinger 2009:143). Walters and Dentan (1985b:86) define "quasi-lucid dreams" as those in which "dreamers are aware of dreaming but do not control the content of their dreams." Barbara

Tedlock picks up on this distinction, but it makes little difference in her discussion of lucid dreaming cross-culturally.

My feeling is that one would be hard-pressed to find records of lucid dreams among traditional peoples of the strict Western sleep lab sort, whereas lucid dreams of the "quasi" kind are very likely universal (Walters and Dentan 1985a), if by that we refer to a continuum of awareness in the sense postulated by Purcell, Moffitt and Hoffman (1993) above. So, I am going to dispense with the distinction between lucidity and quasi-lucidity, because it is an ethnocentric and experimental distinction of minimal use when it comes to the ethnographic evidence. While it is true that some traditional people have reported being awake to the fact they are dreaming (Tedlock 1999:94-98 *passim*), it is usually incidental to the dream experience which is usually already vivid and significant. Henceforth, when I speak of lucid dreams and lucidity, I am talking about dreaming in which I am inferring that PFC involvement is enhanced, the brain's executive functions are apparently operating in the dream and some degree of awareness of the dream *qua* dream may or may not be present. My suspicion is that the latter characteristic is often present, but not reported.

Lucid Dreaming Cross-Culturally

Let us examine a number of lucid dreams from the ethnographic literature so that we can get a flavor for the phenomenology behind what we are talking about. This dream was collected by Myrna Walters and Robert Dentan (1985b) while they were teaching Han Chinese students in Beijing, China. The student is male and is writing in English for a class. Keep in mind that because of Marxist-Leninist indoctrination, modern materialist Chinese normally exhibit little interest in their dreaming:

> A few days ago, I had a very, very strange dream. The dream was *just like a play showing on a stage.* I dreamed that there were two heroes fighting against [each other]. The two were the best fighters in the world, like Beowolf (perhaps it was because that I read the epic Beowolf that I could have such a dream). One of

> the heroes was just [by] himself whereas the other had a lot of fighters with him. The group of fighters caught the hero several time[s] but he fled away every time. Once the hero lost one of his shoes, so he had to stay in a room, and the group of fighter[s] knew this. The other hero came silently and all of a sudden, he locked the door and locked the hero in the room. The hero of the group laughed loudly and went away. The fighter in the room was very angry and tried to seek a way of going out. At this time, one of the "second class" fighter[s] in the group came. The [hero pleaded with] him to unlock the door. The fighter agreed without any hesitation but he [had] a condition. That is, the hero should fight with him, because the "second class" fighter thought he could win over the hero. The hero was confident that he could win over him and agreed. The fight[er] unlocked the door and the hero came out, saying "I have no time to waste on you" and ran away. The fighter was angry: "I thought you were a whole man, but you are not." The hero, hearing this sentence, [ran] back again, and both of them got ready to fight. At this time I woke up. (emphasis mine)

Notice that the student reflects upon how the dream appears like a stage play, implying that he was watching from the audience. Walters and Dentan (1985b) suggest this represents a psychological distancing of the dream ego from the "play." Notice also that there is back and forth dialogue among the protagonists and that there is a continuity of plot, resulting in something of a story line, however surreal.

Here is another dream recorded by Walters and Dentan (1985b) from a male Chinese student:

> People were playing on the skating rink joyously. Miracle appeared suddenly. Someone were riding bicycles on the surface of melted ice water and didn't sink! They were moving forward in an incredibly fast speed. One by one, the bicycle driving seemed to be ridiculous. Under the cliff there was the ice surface and on the top of the cliff there was a closet. I was changing my clothes with a man I know well but did [not?] know his name in the closet. With a great sound, a bomb exploded in the middle of

> the cliff. I was just about to look what was happening, another explosion frightened me. *I was trying to make myself to believe I was dreaming. It was so horrible. Wake up! It didn't work.* A bomb exploded inside the closet. Fortunately enough, the bomb was one for teaching, and was not very destructive. No one was hurt. Several bombs just traveled in a curved trace to reach us and explode while we were withdrawing. My acquaintance had been wounded. Someone were shouting cheerfully that they had done an excellent experiment. "You must be terrified, mightn't you?" one of my former classmates asked me. I didn't know where he came from. "No," I replied, "but my elder brother did."

This dream features the very common surreal elements we find in dreams in all societies – bicyclists speeding across water without sinking, a changing room up on a cliff high above the water. With fright and concern there is the attempt to waken and perhaps manipulate the dream, to avoid the anxiety by leaving the scene. Again, there is comprehensible dialogue, this time between the dream ego and a classmate.

In a very remarkable article, Fernando Santos-Granero (2003) describes the scary dreams of a twelve year old Yanesha boy named Pedro Casanto who lived in eastern Peru and who had recently lost his father. He offers these examples to show how the Yanesha, like many other traditional peoples, pay attention to their dreams and use what we would call "lucid dreaming techniques" to manipulate events in nightmares. After Santos-Granero shared one of his own dreams with the boy, the boy opened up to him and confessed he had been tormented by dreams of his father chasing him and trying to kill him. When he finally asked his mother how to handle these dreams, she drew upon Yanesha shamanic knowledge and told him what to do (ibid:182):

> She told her son that the first step to hinder his father's attacks was to become aware in his dreams that his father was dead, and that the one who was attacking him was not his live father, but his father's "shadow soul"... .Pedro Casanto followed her advice. In his first dreams, his father looked vital and had a healthy countenance. But when Pedro Casanto forced himself to become aware in dreams that his father was dead, the latter, he told me,

> appeared to him with the pale skin of the gravely ill and the contorted face of the dead.

The nightmares continued for months, but in the process Pedro learned to wake up in his dream and to fly away so as to avoid his father's assaults. He became very adept at flying in his dreams, practicing over the course of many dreams, but alas, his father learned to fly also and continued to haunt him. Approximately eight months after the nightmares began, Pedro garnered enough courage to confront his father's soul and attempt to kill him. In a final dream, Pedro finds his father, and then flies away with the intention of tiring his father out and then deceiving him and set him up to be killed. He leads his father here and there, hiding and then appearing, playing like he is tired and then flying away. Finally (ibid:184):

> His father was already tired. Then Pedro Casanto hid behind a mountain. He flew around it and approached his father from behind. Pedro Casanto was carrying an old and blunt machete his mother had given him some time ago [in waking life]. He continued flying and approached his father from behind without being seen. When he was slightly above his father, he slashed him with his machete, opening a large wound on his father's back. His father started falling to the ground. He fell like a rag from high above.

Since having that dream, Pedro was never again haunted by his father's soul. The lucid dreaming technique, really a form of incubation, was, just as occurs in the Western sleep lab, imposed from the waking life into the dream life. Pedro woke up enough to learn to fly and escape his father, but more importantly for our purposes, the dreams, especially the dénouement in the last dream, sees Pedro carrying out an intention developed in waking life and carried out in the dream. He successfully carries out a strategy to its conclusion.

Ethnographer Robert D. Bruce spent a lot of time working with the Lacandon Maya in Chiapas, Mexico. The Lacandon pay a great deal of attention to their dreams, and often carry out ritual retreats in which dreaming plays a large role. Here is a dream Bruce himself had during his time among the Lacandon:

> I dreamed I was walking with a slender Occidental woman (dressed in traditional Lacandon clothes) on the trail around Lake Najá to the air strip. As we crossed a sandy stream at the edge of a clearing (neither of which exist, except in my dream), she commented that she was afraid of meeting a jaguar or puma, as I had neither a gun nor a machete. I laughed at the idea of seeing a jaguar so close to Najá, and explained to her that they are now nearly extinct. At that moment I heard the almost whistling sigh of a large animal, and saw a very large puma, bright and tawny colored, and as robust as an African lioness. (The sex of the animal in the dream was not distinguishable.) The woman lifted her huipil [dress] and drew a short-barreled, small .38 caliber revolver. (It could have been either a S&W Chief's Featherweight or a Colt Cobra, though in the dream, I was not certain whether it held 5 or 6 shots.) She handed it to me, and the puma approached us on diagonal course, slowly, casually, with no air of menace... except that it was simply too close. I aimed at the thorax, trying for an angle slightly behind the shoulder, but still crossing the thorax. The angle was wrong, and I wondered if the load of the cartridge was sufficient to pass through the shoulder. I fired anyway, through the shoulder. It charged and I fired several times, rapid fire, until it disappeared behind a small shed (like a milpa granary) which was right beside me, but which I hadn't noticed previously. I waited for it to show again, but only then realized that I hadn't counted my shots, so I didn't know if I had any left or not. Then I heard a voice (not the woman's, as she had simply disappeared from the dream) call "Be careful. It is dying, but still alive!" Then I awoke.

Notice that Bruce's dream was in color, there was dialogue between the dream-ego and the woman, there was rational information about the rarity of the jaguar, and there is considerable cogitation about the most effective shot and concern over not counting his shots. All this indicates considerable thought involved in the dream.

Robin Ridington (1988b:Chap. 9) did extensive fieldwork among the Dunne-za (Dene Tha, or "Beaver") Indians of the Doig River area of British Columbia. He recorded many hours of singing and teaching

by elder *Naachin*, or Dreamers. They are considered to be prophets and are specialists in journeying on the Trail to Heaven, the pathway that all people follow to the afterlife. As one of the Dreamers, Charlie Vahey, told Ridington, "A person who is a Prophet doesn't just dream for himself, he dreams for everybody" (ibid:77). The Dreamer is able to traverse the Trail to Heaven at will in their dreams. He (ibid:99),

> ...is able to leave his body on earth and fly like a swan along a trail of song that is *Yagatunne*, the Trail to Heaven. Even here at Doig I had seen him go into one of the old houses while people sat quietly on the grass in a circle keeping watch. For several hours we waited quietly and kept the space around where he was dreaming clear of disturbing noises of kids and dogs and people on horseback. When he came out of the house the old man began to sing and speak to the people. It might have seemed to an outsider, that he was just an old Indian taking an afternoon nap, but to the people keeping watch, the hours he slept were actually weeks or months of travel within sight of heaven. Dreamers are people who can fly through to heaven and return to their bodies on earth. The people kept watch over him because they wanted to give him a center to which he could return.

The journey on the Trail to Heaven is an intentional one. It indicates lucidity and considerable control over events, and remarkably keen memory for songs and other information retrieved from the dead ancestors.

Indicators of Lucidity Cross-Culturally

I could offer many other examples of lucidity in the dreams of peoples around the globe – see, for example, the dreaming of shaman Ruby Modesto in Chapter 13. But these are sufficient to give a flavor of the kind of dreams that are quite common among polyphasic folk, especially among shamans and healers. What we want to do now is present a list of indicators of probable lucidity that is of use with dream reports from traditional peoples. There are, of course, lucid dream questionnaires used by Western dream researchers, probably the best known being Jayne

Gackenbach's and its refinements (LaBerge and Gackenbach 1987). The significant indicators of lucidity in Gackenbach's questionnaire are the ability to fly, to "almost magically" control events, to intentionally heal oneself, and to intentionally problem-solve. These are not requisite experiences or definitive of lucidity in the ethnographic sense. As we said before, one should seek indicators that help one place dreams on something like Purcell's 9 point scale. Here are some of the indicators I have found useful in evaluating the degree of vividness and lucidity in ethnographic dream reports:

- Aware one is dreaming while dreaming (rarely paired with exercise of control)
- Ritual drivers are used in incubating the dream
- A dream yoga is being used to produce dreaming
- Carrying out intentional exercises or commands
- If ethnographer is a lucid dreamer and asks the right questions: "like being awake"
- "Phenomenologically speaking, lucid dreaming tends toward sensory clarity, bodily presence, and an expansive emotional thrill or numinous religious feeling" (Tedlock 1999:94)
- Vivid and brilliant colors
- Wanting a scary dream experience to "be a dream"
- Exercise of control: change scene, make it stop, fly away, go somewhere else
- *Déjà vu* – dreamer knows they have dreamed this before – memory of past dreams within the present dream
- A plot line of significant duration (indicating working memory)
- Recursivity: dreams within dreams within dreams, etc.
- Meditation or trance within the dream
- Meaningful dialogue, especially when important information is exchanged or delivered, songs sung
- Carrying out an intention formulated in waking life in the dream – going on intended journey
- Awareness of the physical body and out-of-body experiences
- Self-interpreting dream — the dream is meaningful within the dream

Summary and Segue

Dreaming ranges along a continuum of lucidity from being hardly aware of the dream as it is unfolding to extreme lucidity where one knows one is dreaming in the dream and can carry out missions, exercises, experiments and even communicate from within the dream. Lucidity is determined by the extent to which the executive functions of the prefrontal cortex of the brain are involved in mediating dream happenings. Culture has an enormous influence on lucidity and how lucidity is used by the dreamer. Lucidity is a characteristic of the "big," important, "culture pattern" dreams had by peoples around the world. It is particularly a quality of shamanic dream journeys.

We have taken the position that dreaming is actually experience had while sleeping, and that the neuropsychology of dreaming is much the same as waking consciousness. We will now turn to dreaming in the non-Western, cross-cultural arena in Part 2 of the book. We will begin by emphasizing the importance of grounding dream research in the direct experience of dreaming.