

Discussant

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I'd like to start by expressing my regret that Celia Green isn't here. Both because I think her work has offered us the most sophisticated phenomenology we have and also because I prepared a lot of these comments assuming she would be here.

I'll start with some interesting features in both Jayne Gackenbach's and Celia Green's descriptions of lucid dreams which I believe become understandable if we relate lucid dreaming to what we know of meditation. Specifically, I'd like to start with what Green in her 1968 book calls the psychological and perceptual realism of lucid dreams, possibly in turn related to what Jayne today has talked about as a sort of thematic flatness. Such observations are important, but have been hard to fit with other findings. Certainly, the cognitive clarity of lucid dreams does seem to be the opposite of the tendency in normative dreaming toward clouding and confusion, what Rechtschaffen calls their single-mindedness. And since cognitive reflection within the dream can initiate lucidity, this has given rise, *for* many of us to the view that lucid dreaming might be an approximation to our full waking faculties within the dream, with their supposed clarity. Similarly, Green has rightly pointed to the perceptual realism and clarity of lucid dreams, their tendency at times to meticulously imitate physical reality, and to the relative absence of extreme forms of bizarre transformation, which was also reflected in some of Jayne's comments today. So again we could get the picture of a single continuum running through dreams, from bizarre dreams through more realistic true to daily life dreams and into lucidity and control. And if dream bizarreness is to be taken as direct evidence of creative symbolism operating in dream formation, which follows from both Freud and Jung, then we seem to again to have a single continuum between symbolic dreams and lucid dreams on which all dreams could be placed.

Now, lucid and symbolic uses of dreaming are clearly very different. This business of contrasting lucid and non-lucid dreaming along a single line of mental clouding versus awakening, or dream symbolism versus realism, is doubtful. First, George Gillespie and Green have pointed to the curious resistance to reasoning correctly about the full implications of being in the dream, and to similar difficulties in the specific recall of one's actual waking circumstances in even very experienced lucid dreamers. In our studies at Brock, we found that fully lucid dreams could be associated with increased cognitive confusions and memory anomalies, suggesting that whatever single-mindedness or clouding of consciousness may be inherent to dreaming, it is not necessarily overcome by lucidity. They go in orthogonal directions to some extent. If the lucid dream was simply a mental waking up in the dream, then specific confusions and clouding should disappear. But no, at most they may change in type.

With respect to bizarreness or symbolization, our research at Brook seems to have located a curvilinear relation between bizarreness and lucidity. We found that pre-lucid dreams were significantly more bizarre in perceptual alterations and fantastic elements than lucid and non-lucid dreams for the same subjects. But when we looked at the lucid control dreams of long term meditators, we found forms of dream bizarreness that we rarely saw in our normative samples, thereby confirming anecdotal impressions that developed lucidity could be transformed in visionary spiritual directions.

It's my impression that part of what Green describes as the perceptual realism of lucidity, with it's attentiveness to the immediate texture of the senses, is in fact normatively unusual and the same as what Gackenbach, in some of her earlier studies, has called vividness. Subjects report more color, more visual detail, auditory perception and kinesthetic sensations. It is most definitely not the same as what others, like Dorus and Rechtschaffen or Snyder have called the surprisingly true to daily life quality of most dreams. What they meant was not vividness but a mundaneness of experience, and in-terestingly, a close approximation to the verbal and reflective capacities of waking consciousness, but with no hint of the features that lead to lucidity. So if anything, mundane, true to daily life dreams are further from lucid and control dreams than the bizarre and confused transformations traditionally associated with dream symbolism.

Some clarification, I think, comes when we notice that the lucid dreamer is living in his or her dream in the same way that the long term meditator seeks within wakefulness. Both meditation and lucidity show the same development of a detached, receptive, self-reflective attitude in the midst of on-going activities, and the same feelings of exhilaration, clarity and sense of significance. So what Green has described as a realism is a special feeling of im-mediacy and felt reality, as different from ordinary wakefulness as from ordinary dreaming. So I strongly agree with Alan Moffitt and his colleagues that lucid dreams are based on a capacity for self-reflectiveness, unfolding, perhaps for it's own sake, and independent of our ordinary, functional embeddedness, awake and asleep.

I'd add the suggestion that the reflexivity involved in lucid dreams is something that transforms and changes consciousness in a way reminiscent of long-term meditation. I talked this morning about the fact that this equation of lucidity with meditation is supported by our findings in the study with Barbara McCloud, that long-term meditators showed elevated control and lucid dreams, and indeed their degree of lucidity went directly with years of meditative practice, and with rare transformations of dream experience, like geometric mandala patterns of the sort described by Jung, and white light experiences that also occur with long-term meditation. In fact, in that study, two major aspects of lucid dreaming, the self-reflectiveness involved in degrees of lucidity and measures of vividness in sensory detail were associated with different aspects of meditative practice in our subjects. Degree of lucidity went with years of meditation,

while sensory detail and a measure of Gackenbach's kinesthetic sensations, self-rated by the subject, went with the amount of time spent meditating each day.

What we know about the effects of meditation and their cognitive basis in intensified reflexivity, helps to clarify some other points in Gackenbach's and Green's descriptions of the content of lucid dreams. Although she didn't emphasize it today, there is Gackenbach's fascinating finding showing enhanced awareness of kinesthetic sensations in lucid dreams and a tendency for lucid dreamers to show good physical balance in test situations that involve vestibular disruption. And Tore Neilsen has shown the relations between kinesthetic stimulation and forms of dream bizarreness quite possibly related to pre-lucidity. Now these findings along with the very existence of falling and flying dreams could, of course, be understood in terms of a general vestibular instability specific to REM physiology. If so, persons who have good balance in conditions that cause dizziness, could better overcome the natural delirium of REMing and become lucid. Other investigators, however, like Green, have related falling and flying dreams to the dimension of lucidity, which suggests that such dreams are based on the double awareness of a dreamt and an actual body position. This is the same double awareness basic to the lucid dreams, out-of-body experience, and meditation. Along these lines Paul Swartz at Alberta has reported a significant correlation between the Hood scale of spontaneously occurring mystical experience and a -test of physical balance and coordination, specifically, pin the tail on the donkey. In a study with Roc Villeneuve we not only replicated that, which was fun, but we also found associations among lucid-control dreams, experimental meditation, and physical balance. In other words, Jayne's balance factor is not specific to dreaming or lucid dreaming, but is more generally related to the waking experiences that are most like lucidity.

Another reason that we may be struck by a "realism", of lucid dreams is their close relation to what Green in her recent writings calls metachoric experience, which I take here in the narrow sense of hallucinating a version of the physical setting that one is in fact in, especially as seen in false awakenings, out-of-body experience, and in her accounts of apparition experience - often showing this same heightened vividness and precision of detail. I'd suggest that the metachoric reconstitution of one's actual physical surroundings is not just a simple reproductive use of perceptual patterns, as may be true in the daily life settings of ordinary dreaming. Rather it shows a self-referential attunement to one's immediate setting which overrides the state specific disorientations of sleep, and probably indicates a complete taking over of the dreaming process by an abstract imaginal capacity that would be common to lucid dreams, out-of-body experience and meditation. And an important indicator of these states, as Moffitt suggests, is their accuracy. Such metachoric reconstitution of one's actual setting may be very common in waking meditative practice and would help account for reports of the special powers or capacities that are so reminiscent of the quasi-magical manipulations of dream control and out-of-body experience.

Alan Moffitt's views on the nature and function of lucid dreams were intriguing and challenging. I would certainly agree with him that lucidity seems to be based on an underlying cognitive process of self-reflexivity or reflexivity. But when it comes to classifying the so called manifest dream in terms of degrees of lucidity, I'm unsure about an exclusive use of Rossi's self awareness continuum. More specifically, the little understood shift to lucidity seems to involve changes along several potentially separate dimensions of actual dream content or form. For instance, there seems to be a clarity sensory detail - vividness dimension, possibly with a separate kinesthetic dimension that one should add in as well. There is also a curvilinear bizarreness dimension with various distinct subtypes. There seems to be a physical expansiveness or magical thrill factor. And perhaps it's here that we should put falling, flying and kinesthetic sensations. There seems to also be an emotional expansiveness or peak experience dimension. Of course, there's a recognition of dreaming dimension, and that might also include any reference at all to the sleeping, dreaming condition or to the actual setting where one is asleep. There's a dimension of dream control, and we know that that may or may not be associated with lucid awareness. And then finally, with Alan, there is Rossi's original dimension of self-awareness, which might lead to levels of detached observation and double awareness that may involve lucidity or not. So I tend to think that we need six or seven scales to get at the natural variations within the continuum of lucid and controlled dreaming, in terms of what makes it lucid or what makes it interesting to us to study.

Finally, I'll return briefly to the question of whether we should expect all dreaming to vary on a single dimension that ends in lucidity, or anything else for that matter. This is also related to the question of whether there is any fixed function for dreaming. If it's true, as Medard Boss said, that all the modalities of human existence are manifested in our dreams, there will be many lines of variation and potential development to trace through dreaming, not just one. I don't know if we will find a true function of dreaming, or even for types of dreaming, any more than we've been able to for human existence. A self-referential, self-transforming system like the human mind will evolve its uses as creatively and unpredictably as it evolves its structures. Indeed, there do seem to be distinct types of dreaming, each with its own line of articulation coming out of ordinary, true to daily life dreams. There is a lucid control line, a Freud type pressure discharge line, a Jung-type archetypal mythological line, quite possibly a problem solving line, a Robert Lewis Stevenson type creative story line, and various subtypes of physiological projection dreams (illness, pregnancy, etc.), and probably others. It may be because both dreaming and human life have no fixed function that they are open to so many different uses.