Mindlessness and Mindfulness in Daytime and Nighttime Dreaming

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I have been interested in dreams since I was a young child and discovered for myself that I could become lucid in nightmares and so cure myself of them. Professionally, I was fascinated by lucid dreams when almost no scientists knew that they were "real." Lucid dreamersm, of course, knew they were real, and usually did not need any support forom scientific authorities for the fact that their experience was what it was! I say "usually," as we must not underestimate the power of authority to sometimes talk us out of the reality of our own experience!

Much of my early research dealt with hypnosis, hypnotic dreams and nocturnal dreams, then I became interested in altered states of consciousness in general. It has been very gratifying to me that my *Altered States of Consciousness* book (Tart, 1969), which rescued van Eeden's classic account of lucidity from oblivion, was instrumental in reviving both scientific and personal interest in lucid dreaming. I have kept up my interest in lucid dreams throughout my career, and for the last decade or so the concept of lucidity *per se* has been particularly fascinating to me. You might say my primary current interest is trying to understand and develop the concept of lucidity, especially as it applies to *lucid waking*.

This paper has a somewhat grand title of "Mindlessness and Mindfulness in Daytime and Nighttime Dreaming." It is actually a bit grandiose in that I am not too good on the Mind*fulness* part, but I will confess to expert status on the mind*lessness* part. I have been professionally researching mindlessness and personally practicing it for many years now and know it in far more detail than I would like to!

The idea of communicating with others about the importance of developing lucidity in both waking and dreaming was greatly reinforced by my unconscious mind recently in a way that is particularly appropriate for communicating with dream researchers, namely, by a dream. I had gone to sleep with the "thought" (dare I call it a "prayer" in a scientific paper?) on my mind that if there are any higher powers in the universe, I could certainly use a little guidance to keep me in mind of what I should be doing with my life. Here are the highlights of the fascinating dream I woke from.

A Dream of Escaping From Mindlock

> Some friends and I were on a journey, driving in our car, and we stopped in a pretty, wooded area to relax, hike, and picnic. As we left the car we took off some of our heavier clothes because it was warm and pleasant outside. We also unspokenly decided that it was a "safe" area, and that we didn't need any kind of

weapons. As I left the car, though, I didn't feel too sure that it was safe, so I took a small weapon along. It looked like a golden colored candy cane, an odd look for a weapon. I did not realize I was dreaming or become lucid as a result of this anomaly, however, so in the dream I decided it was some sort of pistol and put it in my shirt pocket.

A few minutes later a group of people came out of the woods and attacked us. They looked like ordinary people, but they were actually alien in some fashion, either in the sense of being from off planet or having a quite different mind and emotional set from us. Two women came toward me. I thought I would be able to fight them off and rescue my friends since I had had the foresight to bring the weapon, but as the women approached, the one in the rear called out to the one in front that I had some sort of weapon concealed in my pocket, even though I had done nothing to reveal this yet! I was shocked that the woman seemed to be able to read my mind, but I did not make any move toward the weapon, not wanting to confirm her reading. I also wanted to resolve the situation with less force, if possible. As the first woman came close to attack me I jumped and kicked at her, but she nimbly stepped aside. There was no more physical fighting after that, for the aliens got some kind of "mindlock" on me so I was captured, as my friends had been.

There now followed a period of captivity and slavery to the aliens. My primary role became that of captive/slave/personal servant to the alien lord who commanded the group of invaders. It was he who controlled the mindlock, which kept me in a dulled, constricted state of consciousness most of the time, so I didn't even think about escaping. Once in a while I would come part way out of the mindlock, but part of its power was that when I awoke enough to think of escape I started worrying that the alien lord would telepathically detect my thoughts and increase security measures, so planning for escape would seem futile and scary, and I would sink back into the dulled, constricted state. I didn't think the alien lord was particularly vindictive in doing this, he was just managing his slave property efficiently so he could use it to his ends.

At one point as we were traveling through the countryside, traveling being part of the aliens' plan for conquering more people with their mindlocks, some real people who hadn't been captured came close to camp to try to rescue me and the others. I was enough out of the constricted state to understand this, but knowing that the alien lord could also read my thoughts and not only frustrate the escape attempt but probably capture my would-be rescuers, I called out to them and explained about the telepathic monitoring and some other bits of information I had figured out about how the mindlock worked. I told them that we weren't strong enough to succeed in getting freedom yet, but if we all kept studying the mechanism of the mindlock we would eventually be able to get free. My would-be rescuers departed so they wouldn't be captured. I went back to trying to not sink too deeply into the mental constriction the mindlock imposed, and to studying how I could both keep more awake and unconstricted.

> I was trying to learn to think in a way that wouldn't alert the alien lord's mind monitoring defenses.

Then I awoke to ordinary reality.

What I have to say in this paper will, fortunately or unfortunately, be a little less dramatic than the dream!

To preview, I am going to briefly discuss the nature of consciousness, especially consciousness as a *world simulation process*, and look at what a dream can be understood as from the perspective of a systems approach to a world simulation process. Then I will discuss the concepts of Mindfulness and mindlessness, and extract from that a dimension of *lucidity* that can be used across a variety of states of consciousness. Finally I will share a little of my personal experience in trying to apply these ideas in working toward the development of a *lucid waking state*, and close with another dream about the need for mindfulness.

Figure 1 (from Tart, 1975b; Tart, 1983) is what all of us psychologically sophisticated types know that consciousness is *not*, but it represents our working,

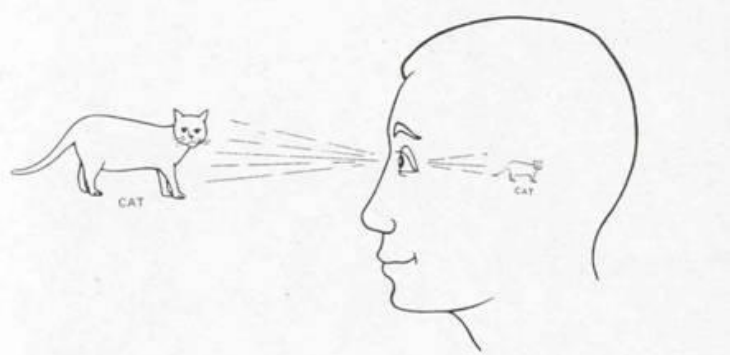

Figure 1: Naive view of consciousnrss/perception.

operating assumptions 99.999% of the time when we live in and deal with the physical world. We implicitly assume that there is a real physical world out there, containing our real, physical self and other real people, real cats and various real objects. We habitually and automatically assume that there is a "high fidelity" reproduction of the real, external world that just naturally occurs in our head and that takes care of being in touch with reality. Perception (and the functioning of the rest of consciousness) are just taken as "natural," as given.

Considering the enormous amount of psychological research that shows that perception is actually a complex and biased *construction*, we know this view is naive, but it is the operating assumption we usually go by. That is, we know from psychological research that perception is not at all a simple, passive perception of physical reality, that we have been trained to perceive in certain kinds of ways and process information in certain kinds of ways. To put in more modern terms, a primary function of consciousness is producing a *simulation* of reality.

In talking about consciousness and perception as a simulation process, we commonly (and implicitly) make several assumptions in our Western culture. Let us make these explicit.

First, we usually assume that there really is an external, physical reality - a very handy working hypothesis for day-to-day affairs. We usually assume that we can learn about external reality with reasonable accuracy, especially with the aid of instruments to aid our senses and systematic research.

Further, we commonly assume, especially in scientific circles, that consciousness itself is totally reducible to brain processes; that when you see this text in front of you, for example, what you are *really* seeing, what you actually experience, is an electro-chemical interaction in a certain part of your brain, an interaction that, hopefully, is pretty accurately related to what is actually going on out there. This is what philosophers call the *psychoneural identity hypothesis*. For many people it is not a hypothesis but a habit of thinking, an ingrained belief. Personally and scientifically, I do not find this hypothesis adequate to deal with all of reality (see Tart, 1981 for an exposition of a theory of consciousness that is more comprehensive), but it is good enough for our discussion for the moment.

Consciousness as World Simulation Process

The simulation analogy to an understanding of consciousness got off to a good start during the Second World War with a device called the Link Trainer, developed to start training pilots to fly airplanes. You can train a pilot the old fashioned way by having him read a manual, take some classes and then putting him in an airplane. The problem is that too many of your trainees will crash and you lose both airplanes and pilots.

Some of you may have seen pictures of the original Link Trainers. A trainee is sitting in a tiny replica of an airplane that sits in turn on top of a movable set of arms. As he works the controls this will tilt the device back and forth, up and down and side to side, changing the trainee's physical orientation in the world in much the same way that similar controls in an airplane would affect the orientation of the airplane. You get some "seat of the pants" feel for what the controls do in a airplane, rather than just abstract, intellectual knowledge, and that seat of the pants kind of knowledge is vital for flying a

plane. The trainee got a lot of practice at an approximate feeling of what happens to the attitude of a airplane in response to his actual movements of the controls.

The Link Trainer was extremely primitive by current simulation training standards. You had to ignore the classroom around you, your instructor sitting at his desk watching you, and the obvious artificiality of the situation and learn some responses that were not really applicable to the "real world" situation you were actually in, viz. sitting in this silly model of an airplane in the middle of a classroom. But nowadays it is much more sophisticated.

Modern flight simulators are so realistic you can easily forget you are in a simulator and believe you are in the cockpit of a real airplane. The inside is exactly like the cockpit of the airplane you are learning to fly. Through the windscreen you see a parking bay at the airport. When you manipulate the controls, the response is just like the real airplane. Start the engines, for example, and you hear and feel them start; the cockpit vibrates, as well as the engine instruments reading properly. Go through the procedure for moving out of the parking bay to taxi to the runway and you see the airplane doing so through the windscreen. Brake suddenly and you feel the deceleration. Take off and you see and feel yourself accelerating down the runway, pulling up into the sky. Throughout your "flight" the instruments read properly and the airplane responds to the controls as a real airplane would. Crises may occur, like loss of power to an engine, and you get practice coping with them.

Modern flight training simulators are "dream machines," in a sense. You can enter deeply into a "dream" that you are flying, although you are in the waking state. After all, you can see the airplane and its environment, you can feel it, hear it, smell it. You feel accelerations and decelerations with the "seat of your pants." Isn't what you sense "reality?" All you need to do is forget the rather abstract bit of intellectual knowledge that you are actually in a flight simulator, something easy to do when all your senses tell you you are in the cockpit of an airplane.

From an outsider's point of view this is all illusion. The trainee is inside a big box mounted on top of hydraulic pistons and springs. The box is shaking around and rattling and vibrating to stimulate feelings of motion and acceleration. A rear projection video projector controlled by a computer is creating an illusion of seeing through a windscreen. Loudspeakers are creating sound effects, etc.

This is a much better dream machine than the old Link Trainer. You can easily and totally forget that you are in a simulator. The simulation is not perfect, actually, but beyond a certain threshold of accuracy and total stimulus input in simulating a world, the automatic habits of your mind will do the rest: you *identify* with what is going on, and *the simulation becomes reality for you*.

Let me elaborate on how your mind completes the illusion of a simulation with an example. In 1966 my friend Robert Monroe and I invented a simple machine which produced a home light show. We called it a Lori Light, after Bob's daughter. In a round, domed plastic container we mounted a dozen colored Christmas tree bulbs, the kind of bulbs that have built-in thermal breakers, so they blink on and off. Each bulb differs a little, so some blink on and off every second, some may take several seconds.

The blinking, colored light from the bulbs passed through a metal shadowing plate with odd shaped holes cut in it, then through a second, similar plate and finally fell on the inside of a translucent plastic dome. The second plate was slowly rotating, so the somewhat fuzzy images of the blinking bulbs slowly changed their shapes as well as blinking on and off, giving an overall display of changing, colored shapes.

I usually showed the prototypes to people while music was playing. All thought it was beautiful, and the more technically inclined wanted to know what kinds of electronic circuitry we had used to synchronize the lights with the music. When I told them there was no circuitry to synchronize the lights and music, that the display was quite random and unrelated to the music, they assumed I was lying in order to protect a circuit which had not been patented yet! The lights were *obviously* synchronized with the music!

Coming back to what our minds automatically and efficiently do, the "job" of the world simulation process is to create *meaning*, to create a sensible, integrated world. With simple, obviously unrelated events it is hard to do this, but above a (rather low) threshold of complexity it happens automatically, with no recognition that "meaning" is being forced on experience. Just as an aesthetically pleasing pattern is "obviously" there as we listen to music and watch the Lori Light, the multitudinous stimulation reaching us from the world "obviously" has a certain meaning, determined in accordance with our biological nature, and our needs, hopes and fears.[ii]

Our most sophisticated view of consciousness nowadays, in many ways, is that it is a simulation by the brain of what the external world around you is like.

Earlier we discussed the naive view of consciousness and perception, diagramed in Figure 1, in which consciousness and perception were largely taken for granted as natural, high fidelity processes. With our modern knowledge we have to do more than that and begin accounting for the construction and simulation aspects of consciousness. Figure 2 diagrams a variation of an older theory of consciousness, in which consciousness is a kind of homunculus in a box.

As the figure shows, "you" are in this box, the skull. You have some video, audio and other sensory inputs. By using electronic analogies for the senses, like video, we recognize that sensory input channels have some characteristics, including limits. The skull box has various life support mechanisms and you work the "levers" that control

your muscles. The mysterious little "you," the little homunculus in there (drawn in dotted lines to show that it is a less "solid" concept than the brain, given our culture's current materialistic biases) is supposedly what creates consciousness.

Homunculus theories have always had a common sense appeal. They recognize the inherent difference we experience between consciousness and physical things and the fact that the nature of the senses affects what can get through to consciousness. Unfortunately they do not really explain anything, they simply move the mystery of what consciousness is to questions about the nature of the homunculus.

Moving to modern times, Figure 3 sketches what we know about consciousness and states of consciousness in terms of my systems theory approach to consciousness, an approach that I have been working with for some years (Tart, 1975b; 1983). It does not totally eliminate the homunculus ("awareness" is the final mystery now), but it articulates the concept of the homunculus and of consciousness in certain ways. In this approach, for instance, we talk about *Exteroceptors* for picking up information from the outside, and *Interoceptors* for picking up bodily information. Ordinarily there are massive amounts of information coming in from those processes, so the information flow is shown as big arrows in Figure 3. But the information from these receptor processes go through an important subsystem, *Input Processing*, a subsystem central to the operation of the world simulation

Input Processing, drawing heavily from memory and our Space/Time subsystem, throws away 99+% of the information coming to us, and transforms, creates a synthesis, a world simulation, from that small percentage of incoming information which our personal history has taught and conditioned us to believe is *important*. This synthesis, this world simulation, is largely what feeds into our basic awareness, where it is further acted upon and activates our sense of identity, memories, emotions, and subconscious processes.

Let us illustrate this process more concretely.

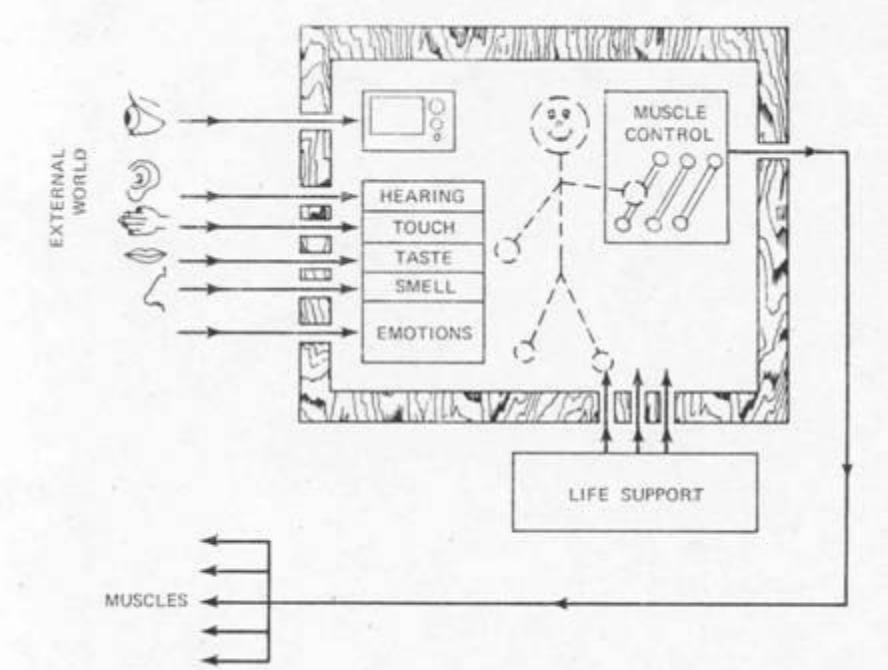

Figure 2: Variation of an Older Theory of Consciusness.

Your real world situation at the moment, as an objective observer would see it, consists of, among other things, patterned light striking the retina of your eyes. There is a general surrounding pattern of brightness accompanied by a smaller pattern of whiteness that is interrupted by tiny black figures. These figures in turn consist of straight lines, rounded lines and tiny circles. The exact visual image of these figures on your retina varies considerably in its geometric proportions if you change the angle of the smaller pattern of whiteness accompanied by many tiny black figures, that is the various lines and curves of the black figures undergo enormous geometric variations. Circular patterns, for example, become ellipses. Your eyes move from one clump of black figures to others.

This description is correct, but is not a useful description of your *experience*. You experience yourself as *reading* the *print* in an *article* - our tiny black figures (letters) on a small pattern of whiteness (the page), surrounded by a greater brightness (the room you are in). Chances are, however, that you were not even experiencing this breakdown of experience to letters on a page until your attention was called to it just now. Rather you were taking in the *meaning* of the *pattern* of the words, having little awareness of individual words, probably almost none at all of the letters comprising the words, much less the geometrical patterning of the black lines that constitute the letters. In spite of the physical reality of the geometrical transformations of the visual stimulus pattern that happens if you tilt the page, you can read just as automatically and easily. No effect on the meaning you are taking in arises from the physical tilt.

Chanowitz and Langer report an interesting observation in this regard:

For example, if a familiar quotation is altered so that it is made nonsensical (but retains sufficient structural familiarity), someone reading it out loud is likely to read the original quote. Even though what she was reading was not on the page in front of her, she is likely to express great confidence that the the quotation was indeed read accurately. (Chanowitz & Langer, 1980).

Did you notice the double *the* in the last sentence? Or did your world simulation process automatically toss it out as you lived in the world of *meaning?* I missed it when I first saw it in Langer's excellent book on mindfulness and mindlessness (Langer, 1989).

We can usefully say that you are existing now[iii] primarily in your world simulation process, that "you" exist "in" your world simulator. And, by and large, it is not a conscious, willful act for the world simulator to be your experiential reality: I doubt if you have been consciously attempting to make sense of the lightness and darkness in your visual field or deliberately forming hypotheses about the meaning of the various little black figures. You have been simply reading and understanding, quite immersed in and at home in this automatized, high level abstraction and synthesis of the physical world.

Further, this world of meaning you are taking in is not a collection of random information floating about disjointedly in space and time. You are taking it in *now*. Your world simulation process creates meaning in a framework of space and time, here and now as opposed to then and there. The *concepts* of space and time are empirically useful for organizing sensation and information for most situations.

So our world simulator takes incoming information and organizes it into a space and time framework and a meaning framework, and it does this almost completely automatically most of the time. Our basic awareness is generally of the organized world simulation, with little attention to raw, unprocessed sensory input. We then evaluate things and we finally produce some kind of motor output which

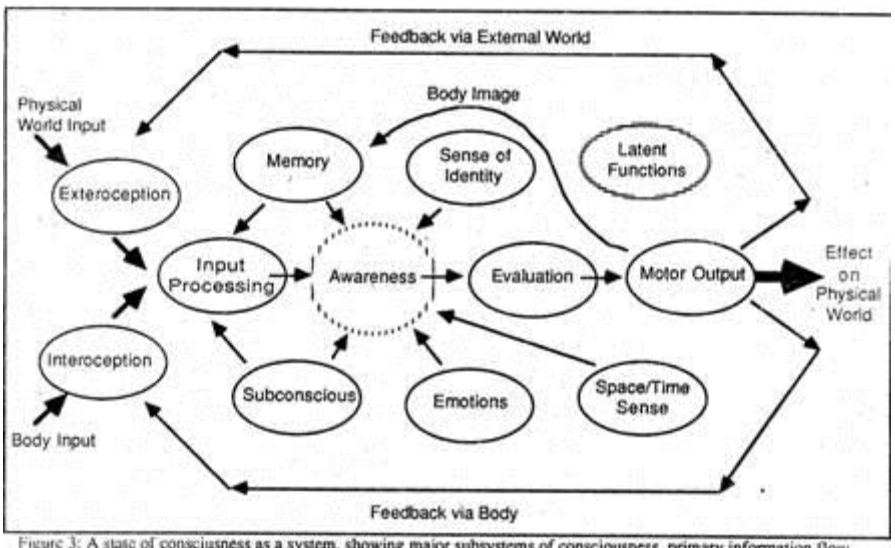

Figure 3: A state of consciusness as a system, showing major subsystems of consciousness, primary information flow routes and major feedback stabilization loops.

has strong effects on the physical world, shown by the large arrow coming out of Motor Output in Figure 3.

In ordinary consciousness there are massive amounts of information from exteroception and interoception that the world simulation process must handle, and these constitute important constraints on the freedom of the world simulation process. This information is represented by the two feedback loops in Figure 3.

Suppose I am standing in the middle of a room, but I have the idea (or even a strong image) that there is a solid wall six inches behind my left arm. I can reach backwards, and then I get sensory feedback that is incongruent with that idea or image; no matter how firmly I *believe* the wall is there[iv], I not *feel* anything there. There is no feedback through my sense of touch through the external world (exteroception), and there is no feeling of resistance to the motion of my body in terms of my body mechanics (interoception).

So the simulation of the world we construct in ordinary consciousness is constantly being modified and updated to be a good match to the external world by the presence of these two feedback loops, using a criterion of *consistency*. The experienced simulation of events must be constantly adjusted so that the consequences of acting on the basis of the simulation are consistent with our ongoing simulation of a moment before, with our stored knowledge about the world, and with the resulting feedback from our external actions. When this does not take place, we have, in the mildest case, surprise and anomaly and, in extreme cases, psychopathology. The world simulation process, then, is a very intensive, active process. Although it must consume considerable energy, we are so used to its automated functioning that we do not, without skilled introspection, sense the psychological and physical energy that goes into maintaining the process.

There is still considerable mystery here. The homunculus has now been reduced to a little dotted box called basic awareness[v] I suspect basic awareness is a given, a fundamental reality, rather than anything we can explain further. But we have a little more articulation of what goes on as *consciousness*, (as I use the term in a technical sense in my systems approach) being the systems interaction of basic awareness with more analyzable subsystems like Input Processing, Sense of Identity, etc., an interaction that constitutes the world simulator.

Consciousness, then, in a very important if not total sense, is an ongoing simulation of the external world and of our identity, nature and position in that (simulated) external world. Every instant each one of us is creating and then, through the feed back loops of our senses (exteroception) and our bodies (interoception), adjusting that internal simulation to produce what we take to be an accurate representation of what is actually out there and our position with respect to it. Things are not as shown in Figure 1, where a physical you apparently straightforwardly sees a physical cat. From this systems approach of consciousness as world simulation, what you see is not an external object: what you see is neural activity. What you hear is not external sound: you hear neural activity. The body you call yours is also a neural, electro-chemical pattern, as are the characteristics you call your self, and so forth. The external world and your position in it is an ongoing inference, and hopefully you are doing a good job of simulating it. Since you are still alive if you are reading this, your world simulation model obviously works quite well most of the time. There is a bit of delightful circularity in all this, of course. Starting from mental experience we deduce the external world. Articulating and refining our knowledge of the external world we discover the senses and the nervous system, begin to grasp the operation of complex systems in the form of machines, and then talk ourselves out of our direct experience by attributing basic awareness to the brain rather than a non-physical mind, so experience becomes an "epiphenomenon." We shall not worry about this for the time being, leaving it for philosophy.

Dreams as World Simulation Process

Now let's look at a nocturnal dream from this point of view. From my systems perspective, a dream is basically the same process as your ordinary consciousness is right now; that is, the world simulation process functions in your sleep much like it is functioning right now. I have presented this theory in a more formal way elsewhere (Tart, 1987).

Figure 4 is a modified version of the systems diagram of consciousness presented in Figure 3. I have drawn some of the subsystem boxes with ripply lines to indicate that there are important changes in dreaming compared to ordinary waking con sciousness, even though the overall arrangement is the same.[vi]

For example, by and large we sleep where it is quiet, so there is hardly any input coming into our external senses. The massive input arrow to the exteroceptors shown in Figure 3 is now greatly reduced in Figure 4. Similarly your

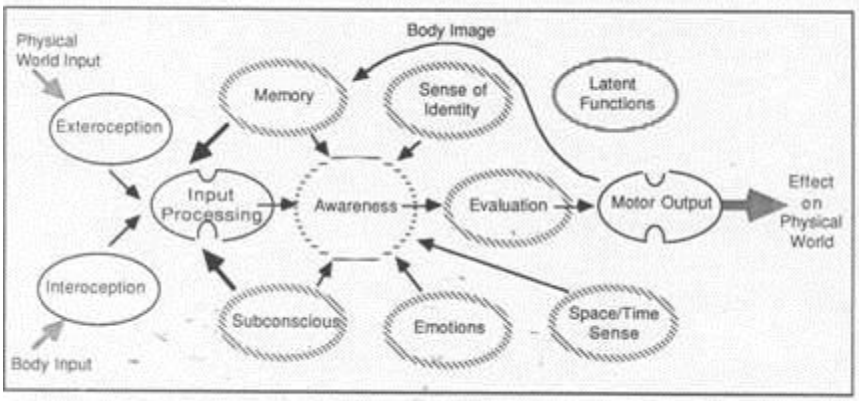

Figure 4: Major alterations in the state of consciousness system during nocturnal dreaming.

body relaxes and the interoceptors neurologically adapt out, so there is hardly any input into our internal senses. The Input Processing subsystem has much less input to deal with. Yet we have evidence that there is still some selective selection and rejection of what stimuli do get through, so Input Processing is drawn with a "pinch" in its middle to represent this active rejection of stimuli that might arouse you or be incorporated into your dreams, this narrowing of the information flow channel.

In dreaming then, the outside world is pretty much cut off from awareness. The Subconscious subsystem, the theoretician's favorite candidate for determining the content of dreaming, is represented as highly active: "someone" must be there bringing in all that dream scenery and getting the characters to walk in on cue at the right time. Memory is functioning but in a funny way. Almost all theoreticians believe that a dream is made up entirely from memories and modified memories, but, phenomenologically, you do not *feel* like you are remembering, as you do in an ordinary state when you remember things. Your sense of identity can also change considerably, as if you were a different person in some dreams, and your emotional reactions to dream events can be different from your waking ones.

The Space/Time subsystem is still working just as hard in dreaming as it does in waking, creating a space/time grid for experience. I have almost never heard anyone say anything like, "I had a dream last night; there was a foot over here and a ball point pen there and some reddish stuff...;" dreams are organized into a space and time framework. It just does not happen to be the space/time framework that we think is "real." If you had "realistic" dreams, you would always dream that "I'm lying in bed in the dark and nothing's happening." It is a good thing that the space/time sense is fairly liberated in dreaming; they would be terribly dull otherwise!

The way in which we evaluate things can certainly change and our motor output, like input processing, is drastically pinched off: this is the stage 1-REM paralysis mechanism that keeps night time quite calm, instead of everybody running around acting out their dreams.

Now consider two vital characteristics of the dreaming state of consciousness as a system. Because you are having essentially no motor effects on the physical world or on your physical body, and because your external and internal senses are largely cut off, those two feedback loops that are so prominent in Figure 3, representing waking consciousness, are almost totally inoperative. Thus while I am hypothesizing that the world simulation process is still basically the same process in both waking and dreaming, it is no longer constrained in that the simulation has to keep matching incoming sensory data. There is no feedback constraint. So there is a much wider range of experiential reality available in the dream state, a freer world simulation.

You can dream of hiking up mountains, for example, and there are no sensory inputs from your physical feet telling you, "There are no sensations in my feet as would happen with walking, so I am actually lying still instead of doing any walking." Your habitual belief that your feet should feel tired after a long walk may or may not operate to make your dream feet feel tired. This lessening of feedback constraint is a major factor that can lead to the "bizarreness" of dreams.

This also means that, in both an experiential and neurological sense, *dreams are often just as real as waking experience is right now*. It is the same world simulation process, the same basic brain processes whether you look at a chair right now in your waking state or look at a dream chair in a dream state.[vii]

Mindfulness and Mindlessness

Now we will consider mindfulness and mindlessness, discussing them first in terms of our ordinary waking state.

Given a world simulation model of consciousness, for survival and adaptive purposes we want our simulation to be as high fidelity and as accurate as possible, within the limits of being human. But we know that our world simulation is not always perfect. The most obvious of these are numerous, well-known optical illusions are reversible figures. Psychologically, though, we tend to regard these as "tricks" of the senses, mechanical break downs, rather than drawing the more profound lesson that *all* perception is constructed and not necessarily accurate. There are also many breakdowns that are much more significant.

Consider projective tests like the Rorschach or the TAT cards. We say that people

project into these stimulus situations. Drawing from our knowledge of psychopathology and the experimental study of perception, we know that our world simulation, our *experienced* reality which we take to be the real physical reality, is strongly affected and altered by our needs, hopes, fears, defense mechanisms, and personality dynamics. We tend to apply this knowledge mainly to people labeled as neurotic or psychotic, though, without thinking about its implications for everyday life.

There is a vital psychological concept originating from Eastern cultures. The Sanscrit word for it in Hinduism is *maya*, the Buddhist word is *Samsara*. Both terms mean living in illusion. In a very important and real sense we can say that sometimes we live in illusion, that what is experienced as an obviously real sensory perception is actually a significantly distorted simulation of some aspect of the world. Living in illusion can have, of course, unpleasant consequences.

When maya and samsara get translated into western terms they usually get (mis)translated as the idea that the physical world is not real. I personally do not *know* whether the world is real or not, but I find its reality a good working hypothesis! But philosophical disputes about the ultimate nature and reality of the physical world are not the main point of either of those concepts. The main point of the concept of samsara is that because of the distortions introduced by our psychological needs into the process of perceiving reality, we do indeed live in a kind of waking dream; in a set of illusions rather than clearly seeing the world as it is. We walk around in a walking daydream, as it were, that significantly distorts reality. Walking around in a daydream you mistake for reality leads to all sorts of stupid, non-adaptive actions.

To put it in the terms of the world simulation model, dreams and many of the internal representations of the external world that we deal with and mistake for accurate perceptions of what is out there are actually badly distorted. Similarly, many of the "perceptions" (simulations) we have about ourselves - our beliefs, talents, weaknesses, worth, etc. - are also quite inaccurate. As a result we draw maladaptive conclusions about external reality, based on our distorted simulations, and so act inappropriately. Such inappropriate action produces reactions from both the physical world and other people that can cause suffering. The suffering resulting from the initial misperception might cause a revision of our world simulation in the direction of more accuracy and consequent reduced suffering in the future. Or the suf fering in turn might be further misperceived, inaccurately simulated - "He said that because he always has it in for me!" instead of the more accurate, "That was a stupid thing I did, no wonder he is angry!" - so perpetuating and intensifying the process of living in illusion.

This Eastern idea that we live in illusion sounds crazy to most Westerners, and even to most psychologists. If you look at the data of psychiatry and psychology, however, we Westerners probably know much more about the nuts and bolts, the specifics, of living in illusion than people do in the East. We have immense numbers of examples both from the

annals of psychopathology and from precise laboratory experimentation, of the way people automatically and unknowingly distort their reality perception, but we have simply never put it together into a concept of "living in illusion."

We usually only apply these ideas to people whose illusions are so obvious (i.e., socially deviant) that they bother us enough to call them neurotic or crazy. Unpalatable as the idea may be, however, my studies have convinced me that we all live far too much of our lives in samsara, in worlds of illusion. But since almost everybody believes many of these illusions, they are not recognized as socially widespread illusions, they are simply implicit "truths." Much of normal life consists of living in illusion. You can find innumerable examples.

I want to give you a little wisdom from the mouth of babes about the process of living in illusion. A couple of years ago a friend of mine, Jo Ann Norris, who runs a psychological growth center in Phoenix, called me up to tell me about an experience she had with her four-year old grandson, Tabor.

Watch Out for Illusions!

Tabor had been visiting her house and had lost one of his toys, so Jo Ann was helping him go through the house looking for it. They went into the living room and there it was, in the middle of the rug. As she started to go over to get it, Tabor shouted, "Stop Grandma! It might be an illusion."

As you can imagine, that stopped her. But Jo Ann is a very sophisticated lady, so she recovered in a minute and asked Tabor, "Tabor, how do you tell if something is real or an illusion?"

Tabor replied that this was easy. You can shake an object and if it's still there after you shake it, it's real. This sounds like a pretty good criterion to me!

Jo Ann had to ask him where was he learning about reality and illusion. Tabor replied that he was learning it in school.

Four-year olds, of course, don't have much schooling. But Tabor could see right away that Jo Ann didn't get it. Grownups can be real dense sometimes! So he spontaneously explained, "Not in ordinary school; the school in my head."

I want to follow this kid's progress!

This little story is actually a summary of the essence of this paper. Some of the things we go after or avoid are illusions and we have to learn to shake them to tell whether they are real or not. We can not depend on society's educating us for that, so we had better go to the school in our heads to learn something about how to do that. When you do not know, you live in a low fidelity world simulation, your own and other people's

perceptions can be badly distorted, you live in the illusions of samsara, and you create enormous amounts of stupid and unnecessary suffering as a consequence of acting in inappropriate ways.

Mindfulness and Mindlessness in Dreams

Now we will consider mindfulness or the lack of it in dreams.

Recall the basic structure of a dream from the systems perspective: the world simulation process is operating very much as it does in waking consciousness, creating a world in which you experientially live, but you are almost totally cut off from the outside physical world and your physical body and there are no feedback loops to put constraints on the world creation process. By typical, culturally relative Western waking state standards, dreaming is inherently a high state of illusion and delusion. What are those typical waking state standards? I shall outline several salient aspects of the conventional view, although I do not necessarily always agree with them.

First, in Western culture we usually think the world is dangerous, indeed hostile, so we *must* have an accurate map of it, we must have a good simulation just to survive. In dreams we are totally (and dangerously) out of touch with our real situation - lying in bed asleep, hopefully with nothing of consequence happening in our immediate physical environment.

Second, we believe that ordinary (culturally approved) rationality is the best possible way for reasoning about things. That is, we engage in operational thinking as part of our world simulation process to make sense of the experienced world and hypothesize what optimal courses of behavior in it would be, but are strongly culturally conditioned as to what is "logical" or "rational" thinking. "Irrationality," "arrationality," are *per se* dangerous, yet what passes for reasoning in dreams is frequently "irrational" or "a-rational" by waking state standards.

Third, we are generally passive in dreams: we cannot do much, we have little ability to control things. My wife can seldom make telephones work right in dreams, and I often have trouble with the brakes in dream cars, for example. Westerners distrust states of consciousness in which we have less control.

Fourth, we frequently have a lack of access to relevant knowledge in the situations we find ourselves experiencing in dreams. In ordinary life we have a wealth of knowledge to bring to bear on problems - we are quite skilled in dialing telephones or applying brakes, for example - but in dreams we frequently lack rather elementary knowledge about how to deal with situations.

Fifth, we often do not maintain loyalty to our waking state values in a lot of our dreams. We may do things in dreams that would horrify us if done in a waking state.

All in all, then, dreams seem quite inferior to ordinary consciousness. We do not really know where we are, we are irrational, we are too passive, we cannot draw on much of our knowledge, we lack control, and we do not always respect our waking state values. Is it any wonder that we usually subrate our dreams, our experiences, immediately after regaining the waking state? "That was *just* a dream."

Lucid Dreaming

The emergence of lucidity drastically changes the world simulation process that produces dreaming.

To define lucid dreaming, I will use my version (Tart, 1984) of Van Eeden's (Tart, 1969, pp. 145-158) classic criteria. By dream lucidity I mean first that the dream thought, "This is a dream," occurs. This is a necessary, but not sufficient criterion for lucidity. Second, this dream thought leads to[viii] or is associated with a marked change in the quality and pattern of experienced consciousness, such that the pattern and quality of consciousness is much more like the waking state.

That is, there is a transition from one discrete state of consciousness (d-SoC), ordinary dreaming, to another d-SoC, lucid dreaming (see Tart, 1975b or Tart, 1983 for a more detailed discussion of transitions between states). You now find yourself: (a) still experientially existing in the dream world, an existence which is usually just as, if not more "sensorially" vivid,[ix] than ordinary waking existence; (b) but you now know your true circumstances (you are lying in bed dreaming); (c) your thoughts can be quite rational by waking state standards; (d) you can be as active in coping with the situation you find yourself in as in waking life instead of the dream just passively happening to you; (e) you can draw on the knowledge about the world available to you in the waking state quite fully; and (f) you can exert much more control over the situation in which you find yourself, a control that can sometimes include actions that would be "paranormal" or "magical" by waking state standards. You can (g) deliberately choose to uphold your waking state values or change them.

I have sketched an idealized, full blown lucid dream. In actual experience there is some degree of variation (Kellog, 1989). Our ordinary waking state, for example, is sometimes not very lucid, and I suspect we can have some moments of waking that are less lucid than many moments of ordinary dreaming. But, in general, there is a change in the quality of consciousness in the lucid dream state so that even though we remain in the (simulated) dream world, the observable quality of functioning of our minds feels pretty much like it does right now in your waking state.

From a conventional point of view, then, you are totally taken in by, identified with the world being simulated in ordinary dreams and you are in a rather passive and stupid

state. In lucid dreaming your are still taken in by the sensory qualities of the world simulation process, they are as real or more real than in ordinary sensory perception, but intellectually you know they are an illusion and you have "awakened" in terms of conscious functioning. Dream lucidity can be described as an ordinarily awake mind functioning in the dream world.

The Dimension of Lucidity

Now we will flesh out this dimension of lucidity, or mindfulness, and make it something that can be applied to most states of consciousness. In my theorizing so far, for instance, this dimension of lucidity can be usefully applied to ordinary waking and to nighttime dreaming, as well as to emotional states, hypnosis, fantasy states, certain drug states that are not too ineffable, such as marijuana intoxication, and perhaps to toxic psychosis.

Webster's *New Collegiate Dictionary* (Merriam-Webster, 1980) defines "lucid" and "lucidity" as follows:

> **lucid** 1: a: suffused with light: LUMINOUS b: TRANSLUCENT 2: having full use of one's faculties: SANE 3: clear to the understanding : INTELLIGIBLE.
>
> **lucidity** 1: clearness of thought or style 2: a presumed capacity to perceive the truth directly and instantaneously: CLAIRVOYANCE

Consistent with the optical analogy of lucidity, we can also talk about its opposite as (psychological) *opacity*.

What would be the characteristics of being high on lucidity and low in opacity in any state? That would include, for instance, an understanding of consciousness *per se*, a general understanding of how consciousness works in any state. That might include, as a specific example, recalling, in any state of consciousness, that your desires tend to focus and constellate your perception and so may distort your simulation of the world. Lucidity in any state would also include an understanding of the state of consciousness that you are currently in - Am I in a depressed state? Am I in a rage state? Am I hypnotized? Am I meditating? Am I locked into a state of identification? If so, how is my perception of self and reality being affected.

Knowing what state you are in, what pattern your world simulation process is generating. is important. If you know what the prevailing organization of your pattern of mind is, you can know what its useful aspects are, what sensible, adaptive things you can effectively carry out given these readily available state qualities, *and* what the state's drawbacks are for any particular situation. For example, if you were lucid enough to know that you were intoxicated from marijuana, you might realize as you reached for

your bank statement and checkbook, planning to reconcile them, that the altered state typically produced by marijuana intoxication is not a very good state for this task. But if you are planning to look at some paintings in an art gallery, or listen to music, it is a useful state (see Tart, 1971 for specific qualities of marijuana intoxication). As a second example, if you were in a state of rage, lucidity would let you realize that a rage state might be useful for fighting off an attack by a wild animal, but not for helping your friends make up after a lovers' quarrel.

Another quality of lucidity is that you do not get totally trapped in or identified with the state of consciousness you are currently in because you recall the existence of alternative states. In a lucid dream, for instance, you recall that there is a waking state, so if you cannot accomplish what you would like to in the lucid dream, you have an alternative of transiting into the waking state and using its qualities (assuming they are suitable) to do whatever you want.

In any state if you are lucid enough to simply remember that there are other states of consciousness, this memory *per se* can modify your actions and reactions. For example, if you are in a state of rage and somebody bumps into you, what is "logical" to the state of rage is to kick and maybe kill the stupid, clumsy idiot and to enjoy your attack and the power of your rage thoroughly! That is the state-specific logic of a state of rage (Tart, 1972). But if you have a certain lucidity that says, "I am in a state of rage. Rage is one of the many ways my mind can be organized. While the logic of killing the bastard seems quite compelling and sensible in this state, I think that, from the perspective of many of those other states, kicking and killing is not going to look so appealing and logical, and I am going to be both very sorry in those other states and suffer a lot from the consequences of my planned, 'logical' seeming violent actions. So I will resist this urge to attack violently." You have a chance to modify the grip that that state of consciousness has on you.

Lucidity also involves understanding what you *do not* know about the way your mind in general and your current state of consciousness in particular works. You know your limits. You might know, for example, that you have a low tolerance for ambiguity and so tend to jump to premature conclusions, so even though you could make things make sense in a particular way, maybe you should hold out and just observe the situation some more.

If you value lucidity, you probably engage in certain kinds of mental activities and behaviors designed to promote lucidity. For example, suppose you do realize that you need to actively seek further understanding about the way your mind deals with the world, rather than assuming that your present knowledge is enough. You might look for specific ways to increase the precision of your understanding. You might go into psychotherapy or practice insight meditation or explore altered states or get into structured interpersonal encounters with people designed to provoke insight, or become

involved in a spiritual path of some sort. All of these are ways of trying to get a more precise understanding of how your mind works, to increase your lucidity.

Now lets jump to the opposite end of the spectrum in any state: what are the characteristics of high opacity and low lucidity?

I think one of the most fundamental characteristics is a basic ignorance that consciousness is a semi-arbitrary construction, that it is a world simulation process that is not high in fidelity. There is little understanding that the obvious may need to be questioned, or that what may be "normal" is actually largely an artifact of the culture that you grew up in.

High opacity, then, is living in illusion, living in samsara. You automatically accept the appearances of external things and internal reactions instead of examining them mindfully. There is also a kind of dissociation of mental functioning, so that all your relevant knowledge does not come to the situations you find yourself in.

We live in a time when there are enormous numbers of psychological self-help books available, when all the profound spiritual teachings of the ages have been available in paperback books for fifteen or twenty years now. There is probably almost nothing really new that we, as a culture, need to discover to become, through application of this knowledge, incredibly intelligent, integrated, organized and efficient human beings. Yet we slip so often. Afterwards we say to ourselves, "I should have remembered I always do that stupid thing in that situation." Our knowledge tends to be fragmented in states of high opacity. We do not get all the relevant information we need, which includes emotional information.

Opacity is also manifested in specific defense mechanisms that operate in us "normals" as well as in those labeled neurotic. Suppression, reaction formation, repression, identification, introjection, dissociation, rationalization, sublimation, denial, and narcoticization are all ways in which the world simulation process leaves out significant information in the way the experienced world is constructed.

Another major characteristic of opacity is that it has been automatized, to use Deikman's term (Deikman, 1966; Deikman, 1976; Deikman 1982). The machinery of mental processing, the overlearned and emotionally protected patterns of the world simulation process can run by themselves, they do not need to have a conscious controller. Going back to Figure 2, there does not need to be a homunculus inside the box; the system can and does run on automatic too much of the time.

Here is a typical example of everyday mindlessness from Langer (Langer, 1989):

Once in a small department store, I gave a cashier a new credit card. Noticing that I hadn't signed it, she handed it back to me to sign. Then she took my card, passed it through her machine, handed me the resulting form, and asked me to sign it. I did as I

was told. The cashier then held the form next to the newly signed card to see if the signature matched (pp. 12-13).

Opacity is not just passive mindlessness, nor is it just mindlessness with an individual person, whether passive or protected by emotionally based defense mechanisms. We are mindlessly involved in a lot of "mutual defense pacts" with others. There is an unwritten contract guiding much of our social inter action that says something like , "I won't question your illusions if you won't question mine. Thank you, as long as you abide by this contract you are my friend."

Of course opacity results in all sorts of stupid, maladaptive and insensitive acts on our part. The more your world simulation process locates you in a simulation that involves misperception of self and others, the more you compound your misperceptions, and the more inappropriate your feelings, actions and reactions are. Someone says something to you, you simulate/perceive it a distorted way and react on that basis, then they accuse you of being insensitive, and so on and so on. This is a psychological understanding of the Eastern idea of *karma*.

"Karma" often seems like a very esoteric idea to Westerners, but it basically means that actions generate reactions, even though the reactions may be greatly delayed in time so that we do not see the connection. Negative karma is stupidity: if you are out of touch with reality, you generate eventual negative consequences. The hostile remark you made in obvious self-defense to your supervisor years ago, when in point of fact her anger was not really directed at you, eventually results in her giving you a poor recommendation on a job application.

Lucidity and Models of Man

The beliefs, the model(s) that you have of what human beings are affect your concept of lucidity, especially, of how far you think lucidity can go. So far, what we have been discussing can fit into (but is not limited to) the materialistic model or scientistic model. By scien*tistic* I refer to what happens to scien*tific* knowledge when, psychologically, a philosophy of materialism becomes, in effect, a dogmatic, emotionally cathected faith that needs to be defended against heresy.

In the scientistic model of man, what is *real* is what is *material*, is what can be detected by the physical senses and physical instruments. Lucidity would then tend to be equated with the idea that the more you ("correctly") observe reality and ("correctly") understand reality in the same way that physicists, chemists, and other high prestige physical scientists do, the more lucid you are. Anything you experience, any belief you have that disagrees with the models of reality drawn from accepted physics and chemistry, is fantasy at best and probably psychopathology. To automatically dismiss a recalled dream in the morning as "just" subjective, as fantasy, as not "real," to observe an apparently

psychic event and immediately and automatically dismiss it as trickery or illusion without feeling any need to investigate it more deeply is, in this view, to be realistic, to be lucid.

From the perspective of the scientistic model, then, lucidity is a desirable condition, desirable in the sense that, as your world simulation process constructs your experience so as to automatically reflect the believed-in world view, you believe that you will not confuse reality and fantasy. But if you are totally involved in a scientistic world view it is actually a terrible thing from the point of view of genine lucidity or psychological freedom. The concept of lucidity is perverted into conformity with prestigious social beliefs.

True lucidity, as I use the term, means a moment-by-moment movement toward clarity as to what is actually happening, distinguishing your immediate experience and perception from your interpretations *of what is happening*. If you do not make this moment-by-moment discrimination, then these interpretations become automatized aspects of the world simulation process, become falsely perceived as apparent perceptual "facts," rather than the interpretations they are. That is why I speak of scien*tism*, rather than science, for genuine science implies a constant openness and questioning, not a psychological identification with hypotheses, and interpretations, such that they become doctrines (Tart 1975a; Tart 1989b). Maslow's overlooked study of the psychology and psychopathology of science (Maslow, 1966) brilliantly shows how science can be, on the one hand, an open ended system used in the service of personal growth or, on the other hand, one of the best neurotic defense mechanisms available in our culture.

Scientism can also have quite negative consequences for your personal life and for our world, as it is a depressing philosophy of life, a point treated at length elsewhere (Tart, 1989a).

Now let us consider a second, broader model of what it means to be human, what we might call a possible *psychic realities model*.

The materialistic and scientistic model sees dreams as nothing but semi-arbitrary, neuro-chemical actions in the skull, a world simulation process with fewer constraints than in waking consciousness on what can be simulated, but an experience which is, of course, all imagination. Our possible psychic realities model would hypothesize that dreams can be nothing but fantasy much of the time, but they can also be more than fantasy. They could act as a "doorway," as an induction path into other kinds of altered states (altered subjective world simulations)[x] and perhaps even into other kinds of "objective" realities. There are many spiritual traditions that have this view. Rogo (1983), for instance, describes several techniques for deliberately using both ordinary dreams and lucid dreams to produce the altered state of an out-of-the-body experience.

If you accept the idea of being conscious in other kinds of realities, lucidity would be

just as useful and helpful there as in ordinary consciousness in the ordinary world, or in any other altered state. Because of space limitations, and a desire not to unnecessarily activate automated conflicts about psychic matters not really germane to the bulk of this paper, I will not deal further with model 2 here, but we should note that this second model is often incorporated as a (usually minor) part of the third model.

A third model of man, broadest of all, is a transpersonal or spiritual model. Let us call it the *trans*personal model, transpersonal in that our ordinary waking self and its physical embodiment is seen as a particular subset of our much wider nature and potentials.

Buddhism is a typical example of a transpersonal model. It hypothesizes that our true nature is that we are inherently all "Buddhas", enlightened beings, inherently at one with the universe and capable of actions and understandings that, from the point of view of ordinary consciousness, would seem like wonders. Unfortunately we are clouded Buddhas, we live in samsara, illusion: that is our world simulation processe place us in a pathologically inaccurate simulation of our own nature and of the world around us.

Man is asleep, as G. I. Gurdjieff put it, we walk around in a kind of waking daydream (an idea explored more extensively in Tart, 1986). Unfortunately, the paralysis mechanism that operates in stage 1 REM dreaming does not work in the waking dream, so we can act out our delusions and create all sorts of consequences in the world! You can sign checks while living in a state of illusion, and the bank cashes them no matter how foolish your perceptions and intentions.

From the point of view of the transpersonal models, the task of life is to awaken from the sleep, to develop deeper and deeper lucidity in all our actions, in all the situations and states we find ourselves in. This is not just a matter of reprogramming the world simulation process to embody "correct" views, but of developing moment-to-moment awareness, lucidity, penetrating insight into ongoing experiences and thus not confusing experience with *concepts about* experience.

I emphasize the importance of developing moment-to-moment awareness, of lucidity, of becoming sensitive to the way beliefs distort our world simulation. The idea of enlightenment, awakeness, or lucidity is usually too easily perverted, in my experience, into the idea that you are awake when you agree with and confirm *my* world view. This is our automated, emotionally defended world simulation process forcing reality to fit its own models.

Speaking both professionally and personally, I am more fascinated by and frightened by the power and automaticity of the world simulation process to organize our lives and our perceptions so as to apparently validate itself. It is a psychological rule that we will often get from our lives what we expect from them. So we had better be careful about what we believe is going to happen and what we want. Our minds, our world simulation

processes are tightly locked in many ways. The lock is alien. Developmentally, much of the locking, the shaping, the conditioning, was done to us by others when we were too young to resist, rather than being our own decisions.[xi]

Escaping From Mind Lock

I want to briefly end this paper with the good news: there are ways of at least beginning to escape the alien mind-lock. There are ways of increasing lucidity and mindfulness, and decreasing opacity and mindlessness. These escape routes are what my research has been focusing on for many years.

I regret that this section is much briefer than the preceding sections, but this reflects the reality that personally I am much more knowledgeable about opacity than about lucidity. It is easier to diagnose the problem than to cure it.

I am going to discuss my personal experience here, rather than summarizing the literature, for two main reasons. First, if you are going to look at what happens in the inside world, in your own world simulator, you are your own primary instrument: this has to be a very personal study. Second, I do not believe you can really understand psychological opacity and lucidity in others, in some "objective" sense until you understand it in yourself. To understand the full extent of opacity you must, of course, develop lucidity.

Insight Meditation

A primary methodology for developing lucidity that has interested me for the last five years has been the practice of formal meditation. I try to do half an hour or so of what is called insight meditation, or "vipassana", as it is called in the Buddhist tradition, every day. Basically this involves sitting still and trying to clearly observe whatever happens, without trying to make experience "good" or "bad," "pleasant" or "unpleasant." It is trying to discover how the mind functions by taking an observer's stance toward it. Excellent descriptions of the procedure and its foundations have now been published by several Western psychologists (Carrington, 1977; Emmons, 1978; Goldstein, 1987; Goldstein & Kornfield, 1987; Goleman, 1988; Naranjo & Ornstein, 1971; Shapiro, 1978; Shapiro & Walsh, 1984; Sole-Leris, 1986).

One consequence of this practice is that it is now personally clear to me, as well as to many who have written on this, that ordinary consciousness is indeed very dreamlike. I have very little control over my thoughts and feelings and fantasies, and I am much more passive in the way I take life than I would like to believe. My life is rather dreamlike in this respect. Compared to a nighttime dream, I am much more active, intelligent and lucid with respect to my experience of life, but compared to the kind of clarity that I believe is possible for a human being, my ordinary consciousness is indeed

dreamlike, passive, with little control over what my life.

By ordinary worldly standards, of course, I am a successful professional, in excellent mental health, actively pursuing a fulfilling life.

I am able to report these negative observations about the quality of my everyday world simulation, of course, because I can sometimes create or experience moments of far greater clarity, but these moments tend to be fleeting rather than stabilized.

Let me describe what I mean here. These more lucid moments involve an experience of being much clearer than usual about (a) who I am; (b) what my situation is in terms of what is immediately happening here and now; (c) a sense that there is "somebody home," that I am present in a real way that is not typical of everyday life. Everyday life, by contrast, is an experience of my world simulation process running on automatic. There is a sense of (d) sufficiency and happiness that runs through these moments of lucidity. I do not have a strong need to go out and strive to get external satisfactions to lead a happy life when I have these moments of clarity in meditation: it is satisfying simply to exist.

Sometimes my insight meditation leads to specific insights. Some of them are unpleasant, revealing the emotionally distasteful or the repressed, some are of the banal, mechanical ways of my world simulation process: "Ah, this is the 4,298th time I have clearly seen that part of my mind is bored that nothing exciting is happening," or "Gosh, that sore muscle in my leg is acting up again." Sometimes the insights can be quite deep insights into my personality, such as various and quite specific automatized ways in which I try to exercise control over my experience, based on a deep assumption that I and/or the universe is untrustworthy and nothing must be allowed to happen by itself. Occasionally these insights, as well as the more general experience of unconditional happiness carry over into my everyday life.

There is nothing profound about my skill at meditation or my experiences, as I am just a beginner, but if I have been able to get some real clarity out of such practice, I am sure people who have practiced meditation longer and more skillfully than I can go much further.

Self-Observation and Self-Remembering

The other major lucidity practice I have been carrying out for many years is a pair of complementary techniques brought to the West by G. I. Gurdjieff (Ouspensky, 1949; Tart, 1986), *self-observation* and *self-remembering*. These are techniques you practice in everyday life circumstances, - I can do it right now as I write - a matter of simply trying to be clearly present to what actually is happening instead of getting totally lost in the excitement, in fantasy, of what is going on.

The self-observation practice stresses the collection of observations about the

functioning of your world simulation process, the self-remembering aspect stresses developing a kind of lucid presence. Somewhat like moments of lucidity in my meditation practice, the moments of lucid presence in self-remembering practice have an inherent sense of unconditional happiness, of spaciousness for life to unfold in, instead of the typical cramped, rushed quality of life, and of course feelings of clarity about what is going on. The feedback I get from the rest of my life experience suggest that this *feeling* of clarity usually (but not always) corresponds to my indeed being in better touch with the reality around me. I have described some of this more specifically with respect to the martial art of Aikido (Tart, 1987). Specific ways of splitting attention to anchor it in the present may be used, such as maintaining some body awareness (see Tart, 1986).

Staying present is hard for me to do. I am an intellectual drunkard: I get seduced by ideas, intoxicated with them. When a good idea (and even most bad ones) comes along, it is like a beautiful woman suddenly moving into my view, smiling at me and beckoning me to follow her. I usually follow instinctively, automatically, pleasurably.

I like thinking! Almost of all my thinking is pleasurable, and a lot of it leads to productive action. But in trying to practice self-remembering, to have lucid presence, to try to be as present as possible to what *is* happening instead of letting my thinking and desires simulate what I would like to happen or what I fear is happening, is difficult. Not difficult in terms of the amount of effort required do it, but in terms of simply remembering to do it.

Being lucidly present feels like being in much better touch with real world and my deeper nature. From the perspective of those present moments, the rest of the time I am deeply sunk into the world simulation process with only minimal contact with external reality or my deeper self.

For me, self-remembering produces moments to minutes of clarity and sufficiency and a great capability of being able to do things. I have found that if I stay lucidly present I can do almost anything, I am a quick learner. One aspect of this is that by staying present, I know right away when I have lost touch with what I am doing, or when I am faking competence and understanding although I have actually lost track of what is going on. Then I realize it is time to go back to the instruction book or ask a question and find out what I am supposed to be doing instead of plowing ahead in a distorted world simulation, trying to *appear* intelligent instead of *being* intelligent. Self-remembering also leads to insights into myself, my world, and other people in it.

So lucidity can be practiced in the waking state as well as in a dreaming state.

I have stuck to my personal experience here, but it has been paralleled by that of many people who have followed similar disciplines.

Escaping from Mindlock: The Dream View

As dream researchers, we are studying dreams. Some of us are specifically studying lucid dreaming. My main point is that we are not studying just a curious, interesting altered state of consciousness, but doing something even more important, namely beginning to study lucidity *per se*, one of the most important characteristics of the mind. Because this quality of lucidity is something that can be experienced and cultivated in any state of consciousness and because lucidity can lead to a greater understanding of who we are and greater efficiency in and contact with life, this research, on both personal and professional levels, is becoming more exciting all the time!

I will end by sharing a later dream with you on escaping from alien mindlock.

> I am at some kind of group camp on an island, perhaps a spiritual retreat meeting or a more permanent center of some sort. An alien being has visited us. It is friendly. I do not recall what it looked like, but I think it was something like some kind of cute tiny whale or the like.
>
> Their big (space)ship now comes up on the beach. It looks somewhat like a whale. At one point the ship opens its "mouth" (there is still a little confusion whether this is a mechanical ship in the shape of a whale or some kind of living creature)and a long wicker cone protrudes, pointing out at us. I am a little nervous about it, it looks like a projector of some thing, but we are reassured that it's just some kind of microphone or loudspeaker. This cone then retracts back into the body of the ship.
>
> A little later the front of the ship swings back revealing a big, open deck. I come down to it bringing a camera, having heard that the aliens would like a camera for a present. I bravely step up on to the deck: I think I am the first to enter. As I walk around on the deck I notice that some other people have come on board. The deck is arranged like the deck of a ship with lots of chairs in rows, like a movie theater. People are sitting and standing about.
>
> I notice that there is some kind of subtle field in the space on board the ship though, something that induces a kind of pleasant, relaxed lethargy. I am drawn to it, it's influencing me, but I notice it's sapping peoples' wills, they are losing track of their goals and being just content to sit there.
>
> I "remember myself" in a way, I keep track of my mental condition, not exactly fighting it, but staying awake. The field is no problem as long as I remember myself. I call out and get peoples' attention and explain that they are being influenced by this field, but that they do not have to be if they do not want to be, they can move and leave if they want to. I conspicuously demonstrate that it is possible to move about, and I walk off the ship, out of the field, as an example. A number of people join me in leaving the ship. Again there's no feeling of "fighting" the field on the part of the people who joined me in leaving, they just became alert and realized they had their own goals and didn't want to

get trapped in the lazy, torpid pleasure of the aliens' field.

Later I go back on the ship, worried about others and particularly wondering if my wife Judy is on board and may be caught in the field. I run from room to room shouting her name, but do not find her, so I start to relax and assume she's not aboard, she's safe. I am worried because I know that the ship is going to leave soon, carrying off those humans on board into a life of slavery, a slavery they won't be able to escape from because the pleasant slowness of the alien's mind field will have pervaded their minds. They won't even realize they are enslaved, much less be able to do anything about it. The aliens will use them as laborers on the aliens' plantations, or something like that. I think that the aliens may have been coming to spiritual communities all over the world, as such people will be easily fooled into feeling they are privileged to be allowed on board the ships, not realizing the danger of slavery.

Suddenly the ship has started moving. It seems like a big sailing ship, except that it's moving over land, not water. I start looking for a way to jump overboard so I won't be trapped, although the ship is already moving fairly fast and jumping will be dangerous. All this time I am working at staying alert and not being trapped by the field itself. The humans on board have been trapped.

At this point the alien crewmen appear. They look like people. One of them begins taking an interest in me, and I realize I must pretend to be entranced or I will be detected and put under further restraint so it will become much harder to escape.

A telephone on a bulkhead rings and I answer it. Realizing that such a quick and normal response might be suspect, though, I drawl slowly and incomprehensibly into it and finally let the phone drop to the floor.

The crewman watching me has initially been alerted to me by my initiative in answering the phone, but now he seems convinced that I am entranced and dismisses my initial alert reaction as a fluke.

The crewman begins talking to me and I pretend to be deeply entranced, all the while watching my mind to make sure I do not actually get entranced, but watching how I am performing so I can do a good job of faking it. "Faking being entranced" involves moving slowly, seem ing to comprehend only simply and slowly, and giving the alien crewman lots of attention, like he's really important to me and nothing could be better than listening to him and doing what he says.

While doing this I have conceived a way of getting off the moving ship. There is a roll of some kind of flat wire or something near the stern, and I figure I can hold on to it when I jump and the inertia of the reel will make it unroll slowly, then gradually faster, and this will match my descent speed so I will hit the ground slow enough to not be injured. I cannot get to the reel with this crewman talking to me, though, so I am trying to figure out how to distract him and get some privacy to carry out my plan to gain freedom.

He shows me some kind of sink and I notice that line #3 is labeled

"Waste Disposal Line." I try to ask him if there's one central waste disposal line for the ship, as I have an idea that I might be able to sabotage the whole ship and get everybody off, but I have to be careful to not show too much intelligence and initiative.

It looks as if his suspicions are starting to be aroused by my question, so I turn it into a primitive, dumb question about needing to urinate. He tells me to go through a door and I will find a restroom.

The door leads on to the bridge. "Good," I think, "I might be able to learn something about the ship's controls," and go right past the open door of the captain's cabin. This seems dangerous as my presence there might be questioned, but I act very entranced, moving slowly with a dumb smile on my face, and the person in the captains's cabin (perhaps just an enslaved human cleaning it?) does not take more than a moment's notice of me. I go into the restroom, quite large for a restroom, and start urinating in the toilet.

There is an enslaved human woman, bare-breasted, in the restroom cleaning it. I take no obvious notice of her, for the crewman and other aliens come in and I must maintain my entranced appearance. The crewman takes a liking to the woman, who has a very nice shape, although she also has a peculiarly old, grey-haired, short haircut. He asks her what drug really turns her on sexually, so he can have a good time with her. The woman really likes the idea of getting her drug and tells the crewman what drug she likes. I continue to pretend to be dumb and entranced and not to notice, but this confirms my suspicions about the slavery that the captured humans are in: the aliens use drugs as well as their mind field to keep people compliant and manipulate them as necessary.

I am still awaiting my opportunity to escape. I notice that the mind field has been subtly getting to me: by pretending to be caught in it, it has started to subtly influence me, so I have to be really careful about remembering myself so it does not slowly creep up and take me over.

I wake up to ordinary reality.

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[i] This article is based on an Invited Address to the Association for the Study of Dreams (ASD) at their fifth annual meeting at the University of California at Santa Cruz in June, 1988.

[ii] People often ask me where they can buy a Lori Light. Unfortunately we did not have the capital to produce them on a scale that would have made them economical, so they exist only as memories today.

[iii] "Now" is not quite right, of course, for drawing your attention to it has made you more aware of being in a world simulation process instead of letting you rest completely in it.

[iv] I speak of my own limitations of imagery skills in my ordinary state of consciousness here. A deeply hypnotized person, by contrast, given appropriate suggestions, could feel a wall there, even though there was no wall physically present.

[v] These considerations have been elaborated on in the basic presentation of my systems approach to altered states (Tart, 1975b; 1983)

[vi] I will not deal with the physiological changes associated with dreaming here, preferring to concentrate on psychological and experiential factors, but known physiological changes are congruent with this systems approach.

[vii] From this perspective, why some people seem to have non-vivid dreams is a puzzle. My own dreams are usually quite sensorially, experientially real at the time they occur, even if I devalue them in accordance with my cultural conditioning after awakening .

Sometimes, though, my world simulation process "cheats" in my dreams and does a sketchy, fragmentary job on the scenery that's off on the periphery, a job which won't bear close "sensory" inspection. In the waking state the strength of sensory input may partially force input processing to give a lot of energy to its simulation of a particular object. Yet when our attention wanders in waking, the intensity of our aspects of experience of the world can go down. Perhaps in the dream state such lack of full attention is literally visible as sketchy scenery and objects.

[viii] It is possible for lucidity to occur before the dream thought, "This is a dream," occurs, so the recognition of the state is more implicit than explicit.

[ix] "Sensorially" is a strange word in this context if we equate it with information actually flowing through a classical sense channel, but a quite appropriate word if we use it to refer to a category of experience. Hearing is hearing in dreams as well as waking in terms of a category of experience, even though the physical ears are not involved in dreaming.

[x] This "doorway" function is possible in the materialistic model also, as long as we emphasize that these other world simulations are subjective, but it is seldom discussed in the context of that model.

[xi] The conditioning of the world simulation process is discussed in more detail in Tart, 1986a.