

Vigilance Theory and Psi. Part II: Physiological, Psychological, and Parapsychological Aspects

MONTAGUE ULLMAN

ABSTRACT: A vigilance theory of dreaming is outlined and its possible relevance to the paranormal dream discussed. In essence, this theory rests on the following premises: (1) REM sleep and dreaming arose phylogenetically in relation to issues of vulnerability and exposure to physical danger. (2) With the evolution of human society, the nature of the vigilance mechanism connected with dreaming was transformed from one involving physical danger to one involving psychological danger. (3) The specific nature of this danger arose in response to recent events capable of upsetting the existing state of one's connections to significant others. (4) Psi mechanisms can be involved in identifying such significant events occurring spatially and temporally distant from the dreamer.

The concept of the visual metaphor of the dream and metaphor in general are discussed in their possible relevance to psi effects. Normal and paranormal metaphors seem able to capture novel linkages and to express them from a deeper and more vital perspective than is ordinarily possible.

The question is raised as to whether the dream metaphor and the psi metaphor are unconscious attempts to nudge us closer to a truly human ecology, one more successfully concerned with the survival of the species.

In Part I, Jon Tolaas (1986) developed the basis for vigilance theory from an ethological and phylogenetic standpoint. In Part II, I will develop the theory further along physiological, psychological, and parapsychological lines. By way of introduction, I will present what I consider to be the basic phenomenologic properties of dream consciousness.

DREAM CONSCIOUSNESS

What we refer to as the dream is what we are able to retrieve while awake of the periods of dreaming consciousness we experience while we sleep. Our way of thinking about dreams is generally linked to some established theoretical vantage point, most often of Freudian or Jungian origin. What are the fundamental features of this state of consciousness that all theories would have to account for? If we were to strip the dream bare of its theoretical and metapsychological supporting structures, we would have to go back to the basic phenomenon, namely, the dreaming state. This is a form of consciousness characteristically occurring during that stage of sleep known as paradoxical sleep or the REM state. Its essential features include:

1. Dreaming consciousness comes into being as a consequence of biological triggering mechanisms located in the brain stem.

2. Once it comes into being, its duration is the result of the interplay of biological and psychological factors. Biological factors determine the cyclical distribution of dreaming periods throughout the night and, in general, account for the duration of each dreaming episode. Psychological factors may evoke awakenings in the course of a dreaming episode.

3. Under ordinary circumstances, we exist in a state of relative deafferentation while asleep. We can respond to selective and significant personal stimuli while we sleep, such as the mother responding to the faint cry of her infant.

4. As a consequence of our relative state of isolation and the cessation of any ongoing social stimulation, the consciousness we experience during the repetitive bouts of arousal, when most dreaming takes place, is built upon memory residues of recent and remote origin.

5. Dreaming consciousness differs from waking consciousness in both form and content.

6. With regard to form, we shift while dreaming from a linguistic mode, organized logically and linearly in space and time, to a figurative mode, which reorganizes experience on the basis of emotional contiguity outside the usual spatio-temporal frame of reference. Space and time themselves are figuratively transformed to serve metaphorical intent. While dreaming, we are reacting to an aspect of our life experience as if it were being perceived afresh at a sensory level. The predominant sensory mode is vision, but any form of sense impression may be involved. Although other animals may experience visual images while dreaming, human beings have succeeded in transforming these images into visual (or other sensory) metaphors whereby higher and more abstract levels of meaning gain expression. I have referred to dreaming as "metaphor in motion" (Ullman, 1969). Dreams are experienced unreflectively. They have the same sense of immediacy and reality as any direct sensory experience.

7. There are two important features of the content of dreaming consciousness. (a) A dream starts in the present in the sense that some residue of our recent experience remains unresolved and acts as the triggering focus that orients the dreamer to the issue, situation, or predicament that will be the subject of the dream. Dream images have relevance to our current life situation. (b) This residue plays a significant role because it resonates with older issues in our life either not yet recognized or not yet resolved. We seem able to lay open our memory bank and pull out of it bits and pieces of past experience that are emotionally related to our present predicament. In other words, we are able, while dreaming, to mobilize more information that focused around a specific issue in our life than we are ordinarily able to do while awake.

In my opinion, there is a third and, perhaps, most significant aspect to

the message embedded in the imagery. Alone and dreaming, we have temporarily suspended our role as actors in the social scene. We drop our social facade, our social defenses. Under these circumstances, we risk taking a profoundly honest look at ourselves in relation to what we are dreaming about. We get information that can be relied upon: the actual felt imprint of our unique life history as it pertains to an immediate issue. Our assets as well as our deceits are displayed for what they are. To the extent that they are at odds with a waking vision of ourselves, our dreams have something to teach us.

The way that dreaming consciousness serves the adaptive needs of the sleeping organism brings us into the realm of theory.

VIGILANCE THEORY

As noted in Part I (Tolaas, 1986), vigilance theory ties in with what we know about REM sleep from an ethological and phylogenetic point of view. It must also account for the basic phenomenological features of dreaming consciousness as described above. Vigilance theory will be reviewed here from three vantage points: the physiological, the psychological, and the parapsychological.

Physiological Aspects

Most theoretical efforts explain the strange form that dreaming consciousness takes on the basis of either psychological constructs (e.g., as a regressive form of presentation as in the case of Freud), or, more recently, as linked to random neuronal discharges (McCarley & Hobson, 1977).

Although our capacity to create images during REM sleep may represent an archaic heritage, there seems to be specific and identifiable characteristics of central nervous system functioning under the conditions of sleep that force the organism to resort to a sensory mode of expressing the content that will occupy the transient periods of consciousness during sleep when dreaming occurs. Much has been learned in the past 30 years about the neurophysiology of sleep and, in particular, of the biochemical factors that influence the REM state. Circuits that link the cortical and subcortical systems and their role in maintaining optimal states of arousal have been identified. Sensory pathways provide collaterals to the reticular activating system (RAS), which, in turn, influences the state of arousal at the cortical level through corticopedal fibers. Conversely, corticofugal fibers that impinge on the RAS also influence the activity of that system. When one is awake, the RAS receives its incoming impulses through any of the ordinary sensory channels. When one is asleep, as Bremer (1954) has implied, the activation of this system is reversed. In the absence of an external supply of afferent stimuli, the cortex itself becomes the source of

afferent stimuli to the RAS. What I am suggesting is that the cortical mechanism that influences the RAS through corticofugal stimulation suggests a logical way of accounting for the form of dreaming consciousness. The RAS, when one is awake or asleep, is organized to respond to sensory stimuli and to the intensity of such stimuli. It is a system that is not connected with the meaning of such stimuli but one that is concerned with modulating the state of arousal of the cortex where meaning is elaborated. Under the condition of sleep, where monitoring of internal events replaces an orientation to the external world, the cortex elaborates afferent impulses to the RAS. Under ordinary circumstances, during sleep no other source is available. To interact with a center geared to responsiveness to concrete sensory stimuli, the contents of consciousness as generated cortically have to be transformed into a sensory mode. This is what we see in the formation of dream images. These images represent thought content now rendered as sensory impulses that carry emotional valences of varying intensity.

Vigilance theory regards dreaming consciousness as a transitional state situated between the nondreaming stages of sleep and the awake state. The theory postulates an orienting self-monitoring structuring of the dreaming consciousness during this transitional state. Poised between nondreaming sleep and awakening, dreaming consciousness can move the dreamer in either direction, allowing the REM period to run its biological course with a return to non-REM sleep or arousing the dreamer to partial or full awakening. Dreaming consciousness serves the same executive function as waking consciousness, namely, to scan and integrate the stimulus field and to arrive at an appropriate behavioral response. In the case of dreaming consciousness, we scan an internal source of stimuli, and the behavioral event is internally generated through the arousal system. This results in only one of two possible behavioral effects—waking or a return to non-REM sleep. Dreaming is then seen as a form of orienting activity designed to process and respond to aspects of residual experience left over from the recent past with an endpoint reached in either the continuation of the sleeping state or its interruption and the reinstitution of the waking state.

Psychological Aspects

The concept of vigilance links the sensory concrete form of the dream to neurophysiological constraints related to the operation of the arousal system. Our next task is to consider how the psychological content of dream imagery is congruent with the vigilance hypothesis.

Vigilance implies an orientation to novelty and so we have to inquire into the nature of the novel stimuli that are compelling attention. Earlier we noted the role of the day residue as the nodal point around which the dream evolves. Whatever issue it raises is compelling enough for the

dreamer's attention because of its link to earlier aspects of experience never clearly or consciously resolved. As initially experienced by the dreamer, this residue has the same qualities as any orienting stimulus in the waking state, for example, surprise, ambiguity, and unfamiliarity. Arising now out of an unconscious domain, its felt ramifications are experienced by the dreamer as an *intrusive novelty*.

The feeling tones set into play by this residue operate reflexively or automatically as a scanning mechanism. Ranging over the entire longitudinal history of the dreamer, they exert a polarizing influence, drawing out aspects of past experiences that are related in emotionally meaningful ways (Ullman, 1973). This enables the sleeping organism to assess the meaning and implications of the novel or disturbing stimulus as a function of the feelings thus elicited. In turn, these feelings play a role with regard to whether awakening will occur.

Those aspects of

past history brought under scrutiny are determined by their emotional contiguity with the initiating stimulus, as well as by the nature and intensity of that stimulus itself. Any such stimulus, which had little or no orienting properties during the waking state and in fact which was overlooked at a conscious level, assumes such remarkable properties in the sleeping state for three reasons. By virtue of its recency it reappears on the scene when the necessary level of cortical arousal obtains. It commands attention because it emerges on what presumably was a pre-existing quiet conscious field or one characterized by random, familiar stimuli. It maintains attention because of its resonating and reverberating connections with unsettled, incomplete or unmastered fragments of past experience. (Ullman, 1973, pp. 459-460)

By engaging in the above operations, the organism is responding to three important questions that could be expected to arise when cortical activation reaches the level necessary to usher in the peremptory form of consciousness known as dreaming. Once this happens, a quiescent, absent conscious field is replaced by a novel, unfamiliar, and strange one that has the added uncomfortable feature of being enforced and involuntary. In the face of this, the organism makes an attempt to regain a sense of mastery by seeking the answers to these questions: What is happening to me? What are the implications of what is happening to me? What can I do about it?

For the information thus mobilized to serve the vigilance needs of the organism, that information has to be reliable. The fact is that our dream images do capture an honest reflection of the particular aspect of our life under scrutiny. The dream can be relied on to provide a corrective to any false, misleading, or self-deceiving strategies resorted to in the waking state.

Only through a revealing and reliable information search can the best possible projection be made of the implications of the event for the future. It is in this sense that all our dreams are future oriented. Whatever aspect of our current experience is important enough for us to dream about

achieves its importance precisely because its implications for our future are not yet clearly visible. By means of the retrospective exploration of our history, we move toward whatever resolution may be possible at the time. The resources thus mobilized are either sufficient to allow sleep to continue undisturbed, or else the implications for the future, expressed as the intensity of the feelings evoked, cannot be contained, and waking occurs.

In his studies on induced neuroses in animals, Liddell (1950) emphasizes these same essential features of a vigilance operation, namely, the organism's concern with identifying the stimulus and dealing with its impact in terms of the future. "We know that even the simplest mammal, wild or domesticated, must at all times be asking both of our questions—'What is it?' and 'What happens next?'" Vigilance and planning are, of necessity, dynamically inseparable" (Liddell, 1950, pp. 189–190).

The human organism shares with lower forms of life this need for vigilance. Our waking behavior is largely related to a man-made social environment rather than nature in the raw. Potential threats arise out of the context of social existence. They come about as a consequence of our interactions with significant others that in any way challenges our value system, social status, or psychological mechanisms of defense. In the everyday experience of the human being, threats of this nature overshadow direct threats to physical existence. While awake, vigilance is tempered by adequate conceptualization, communication, and behavior. The state of vigilance during sleep has shifted from one involving physical danger to the organism to one involving its relatedness to society.

Specifically, how does dream content fit in with this formulation? The onset of a dreaming state may be likened to the emergence from a psychological void. We are generally not aware of experiencing consciousness in any form in the non-REM stage preceding dreaming. The resumption of consciousness at the onset of dreaming involves the dreamer in the implicit need to attend to whatever stimulus is impinging on his field of consciousness. As we have noted, this stimulus takes the form of the feelings released by the day residue. They point to some as yet unmastered aspect of existence and serve as the intrusive novelty to which the dreamer orients him- or herself.

For the dreamer to assess the significance of this intrusive event, he or she needs information that can help to focus more sharply on the nature of this event and information about the resources at his or her disposal to deal with it. To do this, the dreamer has to embark on an information search geared to examining his or her past for experiences that are emotionally related to the event under scrutiny. Our dreams are exquisitely sensitive to any changes, inner or outer, that have a future bearing on our lives. The periodic recurrence of states of high cortical arousal throughout the night provide us with the opportunity to assess these changes, explore the

connections to events in our past, and make decisions as how best to cope with them.

Whatever the current life situation is that the dream is concerned with and that forms the psychological stimulus, it cuts longitudinally through the personality so that its total subjective impact is exposed. It is experienced in the dream both as what it appears to be currently—an insignificant event, the day's residue, and also for the implications it has in reality for the total and historically constituted personality. If one is to be vigilant, one cannot afford to be expedient or involved in self-deception. The true subjective impact of an event is depicted in the dream. When the dreamer is awake and cushioned by familiar and habitual patterns of relatedness, these vigilance needs dissipate themselves and are often replaced by varying measures of expediency, rationalization, and self-deception.

The introspective scanning may be likened to a radar operator engaged in range finding and identification of the target. To continue the analogy, the target may be friend or foe, an outcome that will depend on making more information available. In each instance, there are different behavioral outcomes. The dreamer too is faced with the binary decision to continue sleeping or to awaken.

One other feature of the dreaming experience is related to the logic of dream content in the context of vigilance. In a certain sense, the binary decision facing the dreamer is a drastic one. It involves the possibility of a radical transformation of state—from sleeping to waking. With possibly one exception (fainting on hearing shocking news), we are never called upon, while awake, to affect such an immediate radical transformation of state. In the course of the day, our arousal system functions within more narrow limits. For the dreamer, however, faced with more global changes, it would seem more logical to respond to any intrusive stimuli in as thoroughgoing and comprehensive a manner as possible. Therefore, there is not only an alertness to any stimulus coming into the field of consciousness but also the capacity to open up our remote memory system in the pursuit of identifying data as well as resources from our past that may be called upon if needed. The drastic nature of the decision to be made requires a more extended and more honest view of ourselves than we are capable of when awake.

In the following example, the dreamer is a middle-aged teacher, and the dream was presented in the context of a dream group led by me. It was the dreamer's first presentation to the group. It came shortly after an introductory talk about the nature of an experiential dream group in the course of which I had referred to the creative aspect of dream imagery and had drawn an analogy between dreams and poetry. The dream was worked through in that group. It will be used here to highlight the meanings arrived at in the light of vigilance theory.

I'm in a setting, something like this group here [referring to the dream group]. I was presenting my dream. I had put in a lot of time preparing the dream. There was a blackboard, very large, the size of an entire wall. I filled the entire blackboard with my dream. I had written it as if it were a sonnet, in couplets, two lines and then I left two spaces, two more lines, etc. I then finished the presentation and I waited for comments from Dr. Ullman. You [Dr. U.] got up and said, "You didn't leave me enough room to write my comments." I was disappointed by your response.

The dreamer offered further amplification of the dream.

"It is as if he [Dr. U.] might possibly have written between the lines."

"I was anxious about getting the dream just right."

"There was a great vastness about the blackboard yet I covered it completely."

"I felt ambivalent. I felt eager to present it but also felt anxious."

"It was a good feeling that I had the space to write and that people could see and read what I had to say."

Defining vigilance as the response to intrusive novelty, the three questions that are implicitly raised and answered while dreaming were noted as: What is happening to me that I have to attend to (i.e., the intrusive novelty)? What are its implications? What can I do about it?

Coming into an experiential dream group and presenting a dream can be a powerful anticipatory day residue in that it involves the risk of exposing very private concerns. The dreamer in question experienced a certain ambivalence. He chose to join the group, and he wished to present a dream. On the other hand, he was aware of some anxiety and had discarded several prior dreams in favor of one he thought was relatively safe. The vulnerable area that was exposed and that was still unresolved was his relationship to authority. It is not that this conflict area was unknown to him, but the element of "intrusive novelty" arises when it is unexpectedly and uncontrollably touched off by a current life experience.

The answer to the first question may now be framed as: Here comes another encounter with authority that touches a sore spot.

The dreamer then goes on to investigate that sore spot. The dreamer is a teacher. He feels most comfortable when he is in front of a class. In the dream, he revives strategies that have served to help him maintain the self-image of being in charge. If he has to be a student, then he can assume some control of the situation by coming up with a perfect product. In the dream he is aware of the elaborate preparation he is making about the dream and its final emergence in the form of a sonnet. He is attempting something quite impossible. He takes the dream, something uncontrollable and spontaneous, and endows it with a formal, controlled structure. By structuring the dream this way, he can once again assume the role of the teacher, the authority, demonstrating something on a blackboard.

In answer to the second question, he has evoked past strategies of

control and competition with an authority and relies on his own creativity to accomplish this (demonstrating a sonnet that fills a huge blackboard).

In his dream he leaves me with nothing to say. He registers disappointment at my inability to comment. This, in effect, is a resolution, the only one possible at the time. It reveals both his success at redeploying old defenses and the price he pays for that success. He has closed himself off from a possible learning situation. He doesn't react with either elation or security but with a feeling of disappointment.

The answer to the third question lies in the dreamer's realization at the end that all his defensive maneuvers have a self-defeating outcome. The resolution brings him to the point of readiness to share the dream with the group in a way that leaves him open to benefit from the responses of the group and myself. His comment after the group had worked with him was typical: "I thought I had nailed it down until I began to hear all your comments. I did have concern about being in this seminar and not being the leader."

Along more speculative lines, there are other features of the dreaming experience that support the concept of vigilance. The more experience I have in working with dreams, the more convinced I am that dream images and the information they contain about ourselves offer an antidote to the psychological and social toxins of everyday life. This is by no means a new notion. Jung (1976) spoke of the dream as a compensatory experience. What I have in mind as the toxic effect is all that we are subjected to in the course of the day from outside and from within ourselves that affect the state of connections to significant others. We are likely to dream about whatever it is that either enhances or, conversely, hinders, harms, corrupts, corrodes, or fragments our connections to others. The antidote lies in our ability to register in the dream the occurrence of such threats and to explore in depth their true impact. In short, in contrast to waking life, in which we spend a good deal of time defending our borders, in dreaming we are concerned with maintaining connections and keeping our borders open.

This leads me to another speculative line of thought, one that goes against the grain of all that my psychoanalytic background inculcated into me. In a fundamental sense, I don't think that dreaming has to do primarily with the individual. I think it is the manifestation of phylogenetic adaptive mechanisms that have to do with the survival of the species. Underlying the dreaming experience is the issue of species-connectedness. This is based on the premise that the ability to endure as a species will be contingent on our ability to arrive at a sense of solidarity with all members of our species. It is my view that

our dreaming self seems to hold onto a notion that escapes us in our waking moments—namely, that we are all members of a single species. Our historical fate has fragmented that unity . . . along every line of cleavage conceivable by our ingenuity and foibles, e.g., politically, religiously,

economically, ethnically, etc. This fragmenting process continues macroscopically in the way we divide the nations of the world into forces of good and evil. It goes on microscopically in the way we hurt, corrode, or destroy our sense of connection with each other, by the countless ways in which we pursue individualistic goals at the expense of others. Whereas we may be perfectly capable of living a long life as an individual, thriving on dishonesty (the reverse of the adage of "the good die young"), the likelihood is that we won't long survive as a species if unchecked dishonesty undermines our humanism. And, of course, there is ample evidence currently of the danger of that possibility. The part of our being that shapes our dreams seems much concerned with this issue. Our dreams reflect back to us with ruthless honesty how our connections to significant others fared on the previous day. We seem to have a built-in way of monitoring the extent to which inner and outer events interfere with (or enhance) our own humanity. The dream can be looked upon as a kind of steering mechanism which, if attended to, can help us stay on a survival course. Considering the calculated neglect accorded dreams on our march toward civilization it may already be too late. At any rate, it is this more global concern, one that transcends the existence of the individual as a discrete entity, that suggestively parallels and may be more intrinsically related to the way that manifestations of psi seem to have a bearing on issues of connectedness. (Ullman, 1984, pp. 143-144)

Parapsychological Aspects

At the risk of adding speculation to speculation, I am going to suggest that there may be points of congruence between psi effects and the vigilance hypothesis as it applies to dreams. My hope is that viewing psi within this larger framework may suggest new experimental approaches.

The starting point is the fundamental fact that in our dreams we give visibility to the emotional components of the interpersonal field of greatest importance to us. We do so with an accuracy and honesty that is beyond our reach while awake. We do so in a direct, unmediated way. Because dreaming is an unreflective form of consciousness, it has a direct sensory quality to it. It has all the immediacy of accidentally touching a hot stove. It is felt before it is reflected upon. We do, of course, reflect to some extent in our dreams, but such reflection is constrained by the enforced sensory impressions that come at us in this unwilled fashion. I have emphasized that the sensory effect is not a simple one but one that embeds information at an abstract metaphorical level. In linking dreaming to vigilance, I stressed the dreamer's orientation to a changing status quo initiated by some intrusive novelty and the importance of exploring the implications of this for the future and of arriving at as complete and honest an assessment of this as possible because of the potential drastic change of state that would be called for as a consequence of the exploration. Asleep and dreaming, we engage in a retrograde scanning operation ranging through our longitudinal life history. The dreamer is operating on the basis

of an emotional radar set into motion by a recent feeling residue that serves to ferret out of the past the information needed to evaluate the future. This scanning operates out of the usual space-time frame of reference. The last point I made about dreaming is its concern with the issue of connectedness and the possible relevance of this to the survival of the species.

Let us start with the idea that there is a general urge toward self-realization in all living organisms. For organisms other than humans, this refers to the realization of their full biological equipment and whatever capacity they may have for social development. In the case of humans, the task of self-realization is more difficult. It implies the struggle to realize one's biological potential within an environment not given by nature as in the case of lower animals but one that we have largely manufactured. We are confronted not only by the potential the environment offers for self-realization but also by the cumulative hindrances to self-realization resulting from all the mistakes the human race has made in the course of its history. This has led to a universal dilemma. On the one hand, we are conditioned from an early age to adapt to the society into which we are born and in which we have to find a place for ourselves. On the other hand, we have to accommodate to our existence as biological organisms endowed with an intrinsic nature that can be realized only through appropriate social arrangements. When the social order fails to provide such arrangements, we are pushed into two antagonistic adaptive paths. In greater or lesser measure, our inner world is split off from the outer world. I have suggested that dreaming consciousness is a kind of corrective lens by means of which this discrepancy can be visualized and subjected to scrutiny.

Following upon the view expressed by Ehrenwald (1971) that psi was a component of the early mother-infant symbiosis, I have inclined to the view that the operation of psi throughout life is concerned with the maintenance of connections. Psi effects tend to erupt when a significant connection is threatened.

This is the first conceptual link to what we have said about dreaming. Both psi and dreaming are concerned with the problem of maintaining connectedness in a man-made world where the fallout from social institutions and arrangements impairs or threatens such connections. It is as if both operate as a kind of steering mechanism, searching out and correcting for such maladaptive effects. The dreamer is largely engaged in retrograde scanning to search out what he or she is bringing to the problem as a consequence of the vicissitudes of his or her own life history. The psi recipient engages in transverse (across space) and anterograde (across time) scanning to track potential and actual present or impending insults to connections that are particularly significant at a given time. In the case of psi, as in the case with dreaming, this level of adaptation seems more easily pursued under circumstances where one temporarily forgoes the

struggle to maintain one's ordinary relations to one's personal world. While dreaming, there is a drastic cut off from that world. Dreaming is a psi-favorable state and most other such psi-favorable states involve some modification of one's ordinary level of waking attention to outside events. Psi and dreaming may thus be seen as complementary strategies in the service of maintaining threads of connectedness. In this way, they aid and abet the organism's struggle to remedy, or at least to be aware of, the inner and outer split referred to earlier. This broadened view of our vigilance capacity is one that responds to dangers that arise from within or without, to what is known and experienced, as well as to what is unknown across space and time. Our conditioning has led us to be more sensitive to and aware of its operation in the known realities of our lives than to the way and extent to which it may operate paranormally.¹

The psi metaphor. We have described the evolution of two adaptive strategies. While awake we monitor our experience in the interest of adapting to the world as it is. While asleep we monitor our experience in the interest of a broader need, the survival of the species. I have suggested that the concept of vigilance provides the key to the overall strategy we engage in in trying to maintain or repair connections to significant others. Whereas psi effects can become manifest at any level of consciousness, they seem to have a predilection for dreaming and states akin to it. Such effects serve to detect and anticipate interferences with connections.

Can we more specifically define the mechanism involved in carrying out this strategy? As a starting point, I wish to make a closer examination of the properties of metaphor, properties that go beyond our ordinary acceptance of metaphor as simply a figure of speech.

Ordinary speech is liberally sprinkled with "dead" metaphors that have long since lost their originality but continue to serve an expressive purpose. My concern is with the creative metaphor, the metaphor coming into being for the first time. Once this happens it is, of course, still a figurative expression—but it is more than that in the unique way it propels us into new and unknown territory. A metaphor has two terms, a Y term that refers to what one is seeking to express and an X term that is the means used to express it. Because the encounter with the unknown defies

¹ In a series of papers, Stanford (1974a, 1974b; Stanford, Zenhausern, Taylor, & Dwyer, 1975) developed the idea of psi vigilance in which he regarded an ESP effect as a psi-mediated instrumental response (PMIR). The assumption here was that "extrasensory information is obtained through some form of psi-scanning of the environment and that internal neuronal machinations process and integrate the extrasensory information such that PMIR is the ultimate result" (Stanford, 1977, p. 8). Stanford (1977) later developed a broader dispositional interpretation he referred to as conformance behavior, in which psi effects come about in accord with need and disposition without the recipient intending its occurrence or even becoming aware of its occurrence. Both the PMIR and conformance models are relevant to the more limited view presented here of nocturnal vigilance during REM.

our grasp and mastery, we are forced to dress it in the most suitable vestiges at hand. There is an element of mystery to the Y component that the metaphorical image addresses. The poet tries to express the mystery of a mood or feeling tone through the play of language. Words are rearranged for their expressive power with little or no regard to the formal syntactical structures that guide ordinary discourse.

In the case of the dreamer, a similar process takes place—one that relies on the rearrangement of available social imagery to arrive at the characteristic visual metaphor of the dream. To do this, the dreamer also moves out of the usual linear and logical arrangement of thought and, disregarding spatial and temporal reference frames, brings events together on the basis of emotional contiguity. Here, too, a creative leap into the unknown is involved. Working with a feeling residue associated with a recent event that touches some vulnerable and unmastered aspect of his or her existence, the dreamer moves into relatively unknown territory in order to try to address it with whatever memory images seem suitable. To do so the dreamer creates metaphors in all shapes and sizes, animate and inanimate.

Where psi effects are embedded in a dream metaphor we may refer to it as a psi metaphor. Just as the dream image in relation to its referred context is rarely, if ever, an absolute duplicate of that context, so the psi metaphor is rarely a totally accurate depiction of the event in question. It is as if the visual metaphor of the dream is capable of approaching, but not reaching, the literal representation as a limit. In common with what we have said about the dream metaphor, the psi metaphor is also a spontaneous movement into unknown (and, in the case of the paranormal, not normally knowable) areas. The creative thrust of the dreamer is directed toward an external event that has already registered as an internal event. In the case of the psi metaphor the external event has not yet registered as an internal event.

Because these strategies are so similar, perhaps their aim is likewise identical. In an overall sense, this would be the survival of the species, the concern with the individual being a secondary matter. More specifically, we may be dealing with a maneuver that takes place unconsciously to insure the integrity of our connections to significant others. The dream confronts us with the task of reshaping our conceptual baggage so as to remove impediments to connections. The psi effect alerts us to an external event that touches us and, in some instances, moves us to action. The dream or oneiric metaphor points to an issue that arises in an external context that has resulted in an intrapersonal tension. The psi metaphor also comes into being as the consequence of an external event, but one that in this instance has been paranormally apprehended.

Psi residues of this sort not only have implications for internal dynamics but have the added special feature, at least in the most dramatic instances, of calling attention to the significance of the apprehended event in itself.

Before introducing an example of how psi effects can be related to the vigilance hypothesis, it should be emphasized that this hypothesis simply outlines the dynamic structure within which psi may operate. By itself it says nothing of how psi comes about nor does it lessen the mysterious and challenging nature of such events.

The informant is a young woman whom I consider reliable. She told me the following dream she had several years earlier while working in Columbia, Illinois. She awoke at 4 a.m. on a Sunday morning in a state of great apprehension as a consequence of a dream in which she experienced herself as being in her mother's womb. As she looked about she noticed, with considerable terror, the presence of a large tumor mass. At that time, her mother was in Chicago, and as far as she (and her mother) knew her mother was perfectly well. On awakening that Sunday morning, she felt an urge to call her mother but refrained from doing so because, as she put it, her better judgment told her it was just a dream. She thought no more about it until the Friday following the dream. While at work she received a call from her mother. She stressed the fact that this was most unusual as, at no time before or since, did her mother ever call her at work. Her mother told her that on Tuesday of the same week she had gone for a routine physical check-up and was told by the doctor that she had a pelvic tumor mass. Her mother waited until Friday to call as it wasn't until then that she learned it was a large but benign cyst of the ovary.

On hearing this account, she told her mother of the dream without at first mentioning the time involved. Her mother in turn added another interesting feature. On Sunday, the day of the dream, her mother reported awakening at 4 a.m. thinking she heard one of her two children calling "Mother." She got out of bed and went to what had been their bedrooms before she fully awakened, realizing that both children had long since left the home.

The two features illustrated in this example are the facilitating influence of the mother-child bond and the presentation of the precognized event transformed into a blend of metaphorical and near direct imagery. As noted by Tolaas (1986) in Part I, it is this bond that may play an important vigilance role in the survival of the young. Never completely lost, it surfaces in later life in an analogous way.

The following example is taken from a letter I received and describes a possible psi event picked up in a dream. It is offered not for its evidential value, but because it is prototypical of such anecdotal accounts and of the many more carefully validated accounts that have appeared in the literature.

The letter is from a Mrs. R.G.L. and is dated May 5, 1982.

In September, 1934, my parents, a younger brother and sister and I were living with our maternal grandparents on a farm in central Illinois. My father was an instructor with the Dixon, Illinois State School. While serving in this capacity he contracted pneumonia and my mother had gone to Dixon

to be with him. My aunt was staying with my grandparents and us at the farm. I knew my father was ill but no one had indicated he might not survive. My father and I had been especially close. I was a sickly child, having been born with a congenital heart problem. He was always so solicitous of my well-being.

The dream itself centered around my concern and my being at the home of another aunt in a neighboring town at the time. She and I were sitting on the front porch swing and she was calming my fears about my father's illness. I looked up the street and saw what looked like a person all dressed in white, smoothly gliding along the sidewalk. This person kept on coming and stopped in front of us. The eyes turned toward me and said, "He's gone." I woke up suddenly, paralyzed, and lay perfectly still for a few moments until I heard the clock downstairs strike six. I can understand the dream but I cannot understand the timing. My father died at 4 minutes before 6 a.m.

I want to stress the fact that there may be explanations other than psi for this interesting correspondence. It is, however, suitable for illustrative purposes. The psi-apprehended event is characteristically one which carries with it a higher emotional valence than any currently available potentially intrusive recent residue from the actual and recent experience of the dreamer. This usually occurs (with notable exceptions) when the event involves a close personal attachment such as that of a parent and child and when something unexpected occurs that does or can threaten that attachment. The specific psychological dynamics in this instance were not available to me, but, on the face of it, the events follow this generic pattern. This woman describes her relationship with her father as especially close. She also refers to her sickly childhood as a consequence of a congenital heart problem. The latter often leaves a child with deep-seated anxieties about survival and with the need for very close and sustaining support. Under such circumstances, her father, as a key figure in her life, would be a prime target for psi-monitoring, however that process comes about. Once the psi-apprehended event registers, the resulting dream scenario is idiosyncratically conceived and generally ends up as metaphorically expressed concerns and, on occasion, remarkably accurate perceptions, as in this instance of the moment of death.

This elaboration of the psi metaphor sheds no light on the mystery of how psi effects come about, but, rather, attempts to say something about how psi is expressed when it does occur. Except for contributions from the clinical disciplines, the metaphorical expression of psi and its tie-in with the dynamics of human relations has received scant attention. Those of us who work with dreams have uncovered psi effects through dream work. In the dream studies conducted at Maimonides Medical Center, metaphorical correspondences could easily be detected, for example, the percipient's emphasis on the pounding of waves when George Bellows' "The Boxing Match" was the target. This painting of a heavyweight fight conveys the

Before introducing an example of how psi effects can be related to the vigilance hypothesis, it should be emphasized that this hypothesis simply outlines the dynamic structure within which psi may operate. By itself it says nothing of how psi comes about nor does it lessen the mysterious and challenging nature of such events.

The informant is a young woman whom I consider reliable. She told me the following dream she had several years earlier while working in Columbia, Illinois. She awoke at 4 a.m. on a Sunday morning in a state of great apprehension as a consequence of a dream in which she experienced herself as being in her mother's womb. As she looked about she noticed, with considerable terror, the presence of a large tumor mass. At that time, her mother was in Chicago, and as far as she (and her mother) knew her mother was perfectly well. On awakening that Sunday morning, she felt an urge to call her mother but refrained from doing so because, as she put it, her better judgment told her it was just a dream. She thought no more about it until the Friday following the dream. While at work she received a call from her mother. She stressed the fact that this was most unusual as, at no time before or since, did her mother ever call her at work. Her mother told her that on Tuesday of the same week she had gone for a routine physical check-up and was told by the doctor that she had a pelvic tumor mass. Her mother waited until Friday to call as it wasn't until then that she learned it was a large but benign cyst of the ovary.

On hearing this account, she told her mother of the dream without at first mentioning the time involved. Her mother in turn added another interesting feature. On Sunday, the day of the dream, her mother reported awakening at 4 a.m. thinking she heard one of her two children calling "Mother." She got out of bed and went to what had been their bedrooms before she fully awakened, realizing that both children had long since left the home.

The two features illustrated in this example are the facilitating influence of the mother-child bond and the presentation of the precognized event transformed into a blend of metaphorical and near direct imagery. As noted by Tolaas (1986) in Part I, it is this bond that may play an important vigilance role in the survival of the young. Never completely lost, it surfaces in later life in an analogous way.

The following example is taken from a letter I received and describes a possible psi event picked up in a dream. It is offered not for its evidential value, but because it is prototypical of such anecdotal accounts and of the many more carefully validated accounts that have appeared in the literature.

The letter is from a Mrs. R.G.L. and is dated May 5, 1982.

In September, 1934, my parents, a younger brother and sister and I were living with our maternal grandparents on a farm in central Illinois. My father was an instructor with the Dixon, Illinois State School. While serving in this capacity he contracted pneumonia and my mother had gone to Dixon

to be with him. My aunt was staying with my grandparents and us at the farm. I knew my father was ill but no one had indicated he might not survive. My father and I had been especially close. I was a sickly child, having been born with a congenital heart problem. He was always so solicitous of my well-being.

The dream itself centered around my concern and my being at the home of another aunt in a neighboring town at the time. She and I were sitting on the front porch swing and she was calming my fears about my father's illness. I looked up the street and saw what looked like a person all dressed in white, smoothly gliding along the sidewalk. This person kept on coming and stopped in front of us. The eyes turned toward me and said, "He's gone." I woke up suddenly, paralyzed, and lay perfectly still for a few moments until I heard the clock downstairs strike six. I can understand the dream but I cannot understand the timing. My father died at 4 minutes before 6 a.m.

I want to stress the fact that there may be explanations other than psi for this interesting correspondence. It is, however, suitable for illustrative purposes. The psi-apprehended event is characteristically one which carries with it a higher emotional valence than any currently available potentially intrusive recent residue from the actual and recent experience of the dreamer. This usually occurs (with notable exceptions) when the event involves a close personal attachment such as that of a parent and child and when something unexpected occurs that does or can threaten that attachment. The specific psychological dynamics in this instance were not available to me, but, on the face of it, the events follow this generic pattern. This woman describes her relationship with her father as especially close. She also refers to her sickly childhood as a consequence of a congenital heart problem. The latter often leaves a child with deep-seated anxieties about survival and with the need for very close and sustaining support. Under such circumstances, her father, as a key figure in her life, would be a prime target for psi-monitoring, however that process comes about. Once the psi-apprehended event registers, the resulting dream scenario is idiosyncratically conceived and generally ends up as metaphorically expressed concerns and, on occasion, remarkably accurate perceptions, as in this instance of the moment of death.

This elaboration of the psi metaphor sheds no light on the mystery of how psi effects come about, but, rather, attempts to say something about how psi is expressed when it does occur. Except for contributions from the clinical disciplines, the metaphorical expression of psi and its tie-in with the dynamics of human relations has received scant attention. Those of us who work with dreams have uncovered psi effects through dream work. In the dream studies conducted at Maimonides Medical Center, metaphorical correspondences could easily be detected, for example, the percipient's emphasis on the pounding of waves when George Bellows' "The Boxing Match" was the target. This painting of a heavyweight fight conveys the

impact of brute force. The dreamer metaphorically captured the feeling of relentless aggression. In further work with free-response material, attention to the psi metaphor may prove of value.

The questions we have raised concern the properties of nonreflective consciousness as it is most characteristically experienced while dreaming. Is this form of consciousness more qualitatively different from ordinary reflective consciousness than we ordinarily assume? Is it geared to a different order of reality where all that is in the forefront of ordinary consciousness, our view of the world as organized logically and in terms of categories, is thrust into the background, and what was ground before, that part of us geared to the emotional realities of our life, actual and potential, becomes figure? Could it be that this aspect of ourselves has the capability to actually—not just metaphorically—play free and loose with spatial and temporal limits in order to reach the emotional realities that touch our lives?

REFERENCES

- BREMER, F. (1954). The diencephalic sleep center. In J. F. Delafresnaye (Ed.), *Brain Mechanisms and Consciousness* (pp. 137-158). Springfield, IL: Charles C Thomas.
- EHRENWALD, J. (1971). Mother-child symbiosis, cradle of ESP. *Psychoanalytic Review*, 58, 455-466.
- JUNG, C. G. (1976). Symbols and the interpretation of dreams. In C. G. Jung, *The Symbolic Life* (Collected Works of C. G. Jung, Vol. 18, pp. 181-290). R. F. C. Hull, trans. Princeton, NJ: Princeton University Press.
- LIDDELL, H. (1950). The role of vigilance in the development of animal neuroses. In P. H. Hoch & J. Zubin (Eds.), *Anxiety* (pp. 183-194). New York: Grune & Stratton.
- MCCARLEY, R. W., & HOBSON, J. A. (1977). The neurobiological origins of psychoanalytic dream theory. *American Journal of Psychiatry*, 134, 1211-1221.
- STANFORD, R. G. (1974a). An experimentally testable model for spontaneous psi events. I. Extrasensory events. *Journal of the American Society for Psychical Research*, 68, 34-57.
- STANFORD, R. G. (1974b). An experimentally testable model for spontaneous psi events. II. Psychokinetic events. *Journal of the American Society for Psychical Research*, 68, 321-356.
- STANFORD, R. G., ZENHAUSERN, R., TAYLOR, A., & DWYER, M. A. (1975). Psychokinesis as psi-mediated instrumental response. *Journal of the American Society for Psychical Research*, 69, 128-133.
- STANFORD, R. G. (1977). Are parapsychologists paradigmless in psi land? In B. Shapin & L. Coly (Eds.), *The Philosophy of Parapsychology* (pp. 1-18). New York: Parapsychology Foundation.

- TOLAAS, J. (1986). Vigilance theory and psi. Part I: Ethological and phylogenetic aspects. *Journal of the American Society for Psychical Research*, 80, 375-391.
- ULLMAN, M. (1969). Dreaming as metaphor in motion. *Archives of General Psychiatry*, 21, 696-703.
- ULLMAN, M. (1973). A theory of vigilance and dreaming. In V. Zikmund (Ed.), *The Oculomotor System and Brain Functions: Proceedings of the International Colloquium held at Smolenice 19-22 October, 1970* (pp. 455-466). London: Butterworths.
- ULLMAN, M. (1984). Dream, metaphor, and psi. In R. A. White & R. S. Broughton (Eds.), *Research in Parapsychology 1983* (pp. 138-152). Metuchen, NJ: Scarecrow Press.

55 Orlando Avenue
Ardsley, New York 10502