Theories of Symbolism

Dream Symbols

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THE INFLUENCE OF NEUROCOGNITIVE COMPARTMENTALIZATION ON SYMBOLIC FORMS AND AFFECTS:

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INTRODUCTION

It is possible for that which is conscious in one cognitive system to be unavailable to another system. Indeed it is common for the symbols of one system to be unavailable to another system. This is typified by the experience of forgetting dreams and psychotic hallucinations when awakening or returning to reality.

Boundaries between cognitive organizations are characterized by incomprehensibility of symbol content in at least one direction across boundaries, restriction of the reality testing of one system, from penetrating into the reality testing of the other (see Unit 1 Sect C Chapt 11), and memory lacunae in one system for events that were experienced when awareness was focused in another system.

HYPNOSIS

There follows an example of a boundary between cognitive systems. The systems described are those found in an hypnotized state and a state of hypnotic suggestion while awake.

The setting was a cocktail party. The subject was a 24-year-old woman who volunteered to be hypnotized by a young man who wished to demonstrate his skills at hypnosis. Induction of the hypnotic state was achieved through low-key verbalization. During hypnosis, the girl was induced to sit, stand and turn around at the command of the hypnotist. At the end of the demonstration, the hypnotist said, "When I clap my hands you will awaken. Ten minutes later someone will say 'cat'. At that time, get up and go into the bathroom." At the appointed time the word cat was said. She stood up and headed toward the bathroom. While she was on the way, I intercepted her. I asked, "Where are you going?" "Toward the bathroom", she answered. "Why now", I asked. She looked bewildered. She then said, "I don't know." In later discussion she made it clear that she had no wakeful recall in simple symbols for the events in the

cognitive compartment of the hypnotic state, which had persisted in its own zone of memory and had been recalled in action in the post-hypnotic state.

CRYPTIC SYMBOLS AND COGNITIVE SYSTEMS

Cryptic symbols may be seen as couriers which carry information in masked form between otherwise non-communicating cognitive compartments. The information carried in one system is opaque to the sensory systems of other cognitive compartments. A cognitive compartment consists of a memory section with a sensory system dedicated to conscious awareness. There is for instance a cognitive compartment for each given level of wakefulness and each stage of sleep. Each compartment has its own way of defining reality and a dominant way of organizing thought (i.e abstraction) for use in formulating symbolic linkages. For instance, REM dreaming uses visual representations of concretely established connections such as puns to organize representations and referents.

There are age specific cognitive systems. Latency age fantasy play uses three-dimensional toys as concrete representations of significant figures, and encodes in memory abstractions about concrete experiences. Adults encode abstractions about abstractions in creating memory. It is difficult therefore for adults to remember or understand the creatures of memory that populate latency age play so encoded. Adult thinking uses words for achieving conscious representation in the mature waking memory of mature cognitive systems.

The differences between the cognitive compartments of various ages is so great that special training is required for one to be able to interpret his own recalls from childhood or for a child psychiatrist to understand the many communications contained in childhood play. (See Unit Two, Section C, Chapter 6.) With proper training, a therapist can use cryptic symbols therapeutically. They mark the places where one may find repressed sources of discomfort or neglected past realities, which have been hidden in cognitive systems of memory beyond the reach of current waking awareness.

INTERSYSTEMIC TRANSMISSION OF MEMORIES

Remembered images are perceived in distorted form in the cross boundary perceptions of other cognitive systems. This distortion creates a barrier to intersystemic understanding. The distortion may be

produced as the result of a number of factors. Some examples follow. There are natural maturational alterations of memory and cognition such as that which causes infantile amnesia. According to Schachtel (1949) such amnesia results from loss of memory for early experience due to difficulty in the capacity to recall or recognize on a concrete conceptual level that, which had been encoded on an affecto-motor level. (Pages 160-1.) There is also the difficulty experienced in adult psychoanalysis, with its emphasis on words and abstract concept memory, in recovering the conflicts of latency that were at the earlier time experienced in consciousness through displacement to play symbols. There are transformations through psychoanalytic symbol formation that hide affectively strong urges and meanings. Another example of maturation effecting memory is the observation of Jacobs and Nadel (1994) that ". . . we are unable to remember traumatic events that take place early in life because the hippocampus has not yet matured to the point of forming consciously accessible memories." (p 57)

Intersystem recognition of memory contents falters because contents have been codified for memory at levels of cognitive organization other than that of the zone of awareness, which it is entering, resulting in poor recognition. Memory blurring alterations of the symbolizing function associated with a given stage of sleep may not offer recognizable meanings when remembered in waking consciousness. Alterations in the symbolizing function typify a given stage of sleep.

OTHER FACTORS THAT ALTER COMPONENTS OF MEMORY

Memory impairment may also result from traumatic alterations of cognition, or result from the natural waning of retained memory elements over time, which offers only partial recall. Activation of alternate brain cognitive organizations (visual memory) occurs as the result of closing off of influence from another part of the brain. This occurs with the blocking of signals of retinal stimulation during eye movement, especially during REM sleep. The eye does not transmit light signals while moving. A shift of inputs to awareness that emphasizes visual memory occurs. This shift to the visual memory system is reinforced when acetylcholine dominates chemical transmission as occurs in REM sleep. Sensory deprivation that excludes the influence of the world shunts the source of the manifest symbol closer to internal influences. This explains the dominance of nonverbal visual content in dreams. Cognitive changes occur when anxiety produces different degrees of regression to primitive levels of secondary process involvement. Symbol inducing anxiety with a high level of intensity produces greater

displacement and masking during the formation of manifest symbols.

Let us look more closely at exclusions from consciousness associated with cryptic symbol formation. Referents in memory, whose contents at the time of origin were linked with strong drives and intense affects, are most likely to be distorted through displacement into symbolic forms. The original referent is masked and its affect blunted. As a result, its latent meaning becomes unrecognizable to conscious waking awareness. Once they have been converted to symbols their meanings are masked beyond recognition. As a result referents in the form of highly charged and troubling images are protected from being identified or worked through in waking consciousness.

When the symbolizing function is healthy and unimpaired, the symbols it introduces into consciousness are muted and hardly recognized manifest representations of highly charged referents. Access to referent is blocked. In their manifest forms such symbols have sharply reduced valence for attracting affect and have no need for further displacement to retain their place in consciousness. The effects of conflict on neutral areas of functioning are reduced. As a result the conflict free sphere of the ego is protected from intense affect that would distract it from adaptive behavior. When the symbolizing function is impaired, and the Ego functions associated with the symbolizing function falter, symbols become relinked to affects. An example of this is a phobia in which the manifest symbol (i.e. an animal) is feared in consciousness.

There is internal pressure to master traumatic experiences (i.e. seduction, brutalization, humiliation, overwhelming affect etc.). This pressure becomes apparent in a compulsion to reexperience or repeat traumas. Such disorganizing pressure activates defensive symbolic imagery, especially in dreams. To an overriding extent the pressure of trauma fuels the symbol-based distorted perception of reality that is produced by the intrusion of memory based imagery on the process of interpretation.

REALITY AND SYMBOLS

The compulsion for repetition of affect-laden imagery in the form of symbol and fantasy derivatives is not conducive to successful adjustment. The repeated disruptive symbolizations seen in fate neuroses, traumatic neuroses, and traumatic dreams are examples. Furthermore, essential to the nature of severe

mental illness is the failure of the individual to recognize that manifest images and symbol contexts, which once having been experienced, become a part of memory are not reality but are false impressions which have a potential to distort future perception, creating the content of a new sense of reality and undermining reality testing. Subjecting external perceptions to such distortion produces false interpretations, which are in turn experienced and remembered as real. In the history of Psychiatry, this has long been known. Aristotle (On Memory and Recollection Volume VII) described the situations, "ecstatics spoke of their mental pictures as if they had actually taken place, and as if they actually remembered them. This happens when one regards as a likeness what is not a likeness." (P 297) also see above: D'Alviella. The capacity to have false memories resulting from the interpretation of symbolic distortion as remembered reality is one of the vulnerabilities acquired by mankind with the development of symbols.

Manifest symbols remembered as past reality can distort and influence later perception, and overpopulate the fantasies that motivate action. Their disparate contents become the infrastructures of simultaneous contradictory parallel realities (See below Unit one, Section C, Chapter 11.) They are germane to an understanding of many forms of impairment of reality testing. For these reasons, the origin, development and nature of symbols, both healthy and pathological, are worthy of the attention of those who work with the mentally ill.

CRYPTIC SYMBOLS AND TRANSFERENCE

Perceived reality consists of interpreted content. It is possible to remember thoughts, words and events with and without affect simultaneously. Latent contents that take a path to consciousness through the hippocampus are free of conscious affect. As a result a memory without affect can be cathected producing a symbol, which distracts attention from its identical affect-laden counterpart. Such bland manifest elements are symbols by definition for they can represent without being an exact reproduction. The true referent (latent content) form of such symbols is accompanied by affect. This is manifested clinically in the resistance shown by a patient who recalls experiences without affect, and can say in response to an interpretation that identifies its affect charged latent content, "I know that, so what." Such isolation is rare in transference reactions. For this reason, the affect charged way of remembering that, which is called "transference" is encouraged in dynamic psychotherapy. Latent contents that find their

way to consciousness through the amygdala are linked to conscious affect. (See Unit One, Sect C, Chapt 10.) This circumstance generates affect-masking symbols in consciousness in response.

PARALLEL REALITIES

INTRODUCTION

Parallel and often contradictory realities are a clinical manifestation of coexisting non-communicating conscious cognitive systems with their individual associated memory systems and symbol nets. The concept of dissonant infused realities is exemplified clinically by the dual realities of Western culture. (See Unit One, Sect. C, Chapt. 11.) Awareness of the existence of parallel realities in the thought of one person is not new. The concept was explored in the thirteenth century by St. Thomas Aquinas. In resolving the issue of conflict between natural and infused realities, Aquinas established the philosophical basis for the coexistence and differentiation of natural and transcendent symbols. More recently Freud and Schachtel have described such states in the study of perversions and amnesias.

Freud introduced a related concept, the splitting of the ego, in 1938. This term describes the existence of concurrent states of consciousness in one person containing mutually exclusive realities, which are unknown to one another. This occurs ". . . (where) there is a conflict between the demand of the instinct and the command of reality." This conflict is solved by the repudiation of reality in the service of persuading oneself that there is no reason for fear. "[Theego] . . . replies to the conflict with two contrary reactions, both of which are valid and effective . . . . [It] rejects reality and refuses to accept any prohibition; on the other hand . . . [it] recognizes the danger of reality." "The synthetic function of the ego, . . . is liable to a whole series of disturbances." (P373 CP)

One may theorize conversely that an adaptive dissociative function of the ego exists. It serves adjustment through establishing dissociated independent cognitive systems, which do not have easy access to one another's content. In such separated systems, remembered, natural realities may be held at a distance from contradictory fantasies, which are derivatives of instinctual wishes. Freed from challenge and distortion by instinct driven fantasy content, knowledge based on reality information is available to be applied to neutral activities. The dissociation of sensed realities into multiple entities is a product of

the use of incompatible symbolic linkages as the basis for symbol formation. Clashing symbolic linkages, derived from incompatible levels of abstraction and from systems of truth based on dissonant infused realities, can support more than one interpretation of reality in consciousness, as well as a conscious truth and a contradicting truth retained in memory simultaneously.

The concept of incompatible levels of abstraction was cited by Schachtel as part of his explanation for the paucity of memories recalled during the latency age period and adulthood, which depict experiences before the age of six. This is called the Infantile Amnesia. Schachtel (1949) explains the amnesia for infantile events that appears with latency thus: "The categories (or schemata) of adult memory are not suitable receptacles for early childhood experiences and therefore not fit to preserve these experiences and enable their recall" (p. 9). [see Sarnoff 1976 P 160]

There are other examples of cognitive dissonances, which create barriers to recalls between cognitive memory systems. Adult memory retrievals, tuned to abstract conceptions, are not receptive to memories, which had been encoded through affectomotor or verbal conceptual modes during earlier stages of life. (see Sarnoff 1976 P 118) As a result, there is a paucity of adult memories representing emotional experiences and fantasies encoded in memory through verbal concept memory during the latency age period.

COGNITIVE SYSTEMS AND THEIR SYMBOLS

There follows a description of the cognitive systems and associated symbols that develop during human ontogenesis. Because each developmental system encodes in memory quite differently, communication between the systems characteristic of respective age groups is limited. Special techniques are required to bridge the gap. As a result men are separated from direct awareness of their own painful past experiences and conflicts. The "lost" contents are not totally gone. They find alternate pathways to awareness in the symbolic forms of dreams, fantasies, character traits and neurotic symptoms.

Ontogenesis of the recording and recall aspects of memory, learning and symbol formation occurs in five stages.

First stage learning is present at birth. It involves the acquisition of nonconceptual reflex patterns.

This is the cognition found in reflex responses.

Second-stage learning begins soon after birth. It involves the acquisition of the ability to evoke recall of learned patterns of affects, perceptions, and bodily postures associated with the initial learning experience. This is called affecto-motor hallucinatory memory. It is the basis for affecto-motor cognition and imitative recalls.

Third-stage learning, which occurs between six months and six years, involves the ability to evoke recall of learned patterns in the form of verbal signifiers such as words and related symbols. The transition from affecto-motor hallucinatory memory to verbal memory has been emphasized in the works of Ferenczi, and Schachtel (see above) in relation to the infantile amnesia for earlier experience, which is an important phenomenon of early latency.

Verbal memory has its own subdivisions. At first, associations and symbolic linkages return in concrete verbal memory. Later, intuitively determined symbolic linkages provide the basis for the formation of symbols. (see Woodward/Piaget) During early latency the effect of repression on verbal and symbolic styles of memory push awareness of the content of earlier forms of memory into shadow. This results from the increased effectiveness of symbolizing techniques in limiting affect and stabilizing adjustment. There is sufficient strengthening of psychoanalytic symbolization to produce a psychic structure in latency, which can process and dissipate disorganizing content through displacement, using symbolic linkages as their base. These mechanisms support calm, pliability, and educability by about age six.

Fourth stage learning starts about six years of age. Then the verbal symbolic linkages, which underlie symbol formation, provide symbolic linkages based on conventions and abstractions, which organize concrete perceptions. Memory at this age involves the symbolic recall of earlier emotional experiences through socially determined verbal schemata for naming. (i.e Power is a policeman.)

Fifth stage learning creates a cognitive system at twelve years of age through which reflective interpretation and symbolic linkages can be based on the acquisition of abstract concepts representative of the intrinsic substance of things and events. (I.E. Knowledge is power.) The latter skill (Abstract operational thinking of Piaget: ability to reason abstractly about recalls encoded in memory as

abstractions) as a memory function has antecedents that occur between six and eight years of age. (See Sarnoff 1976 page 118). At that age, memory begins to acquire abstract intrinsic information about things concrete. That information will be used at 12 years of age when it can be recalled through cryptic symbols whose links to their referent follow channels of abstraction. These cognitive systems can be so different that a communicative barrier between them develops.

BARRIERS BETWEEN COGNITIVE SYSTEMS

A barrier to awareness between cognitive systems occurs when there is a dissonance in the nature of the symbols used to represent referents. This occurs when the organization of awareness cannot integrate the symbols of one system with another. An example of such memory interference is the loss to adult memory of the symbolized fantasies that are used for expression and resolution of conflict in the latency age child. They are unavailable to the adult, for whom there is preference for memories that are recorded and recalled through verbally encoded abstractions.

LUCID DREAMING

CRYPTIC SYMBOLS AND THE BOUNDARIES OF COGNITIVE DOMAINS (WHY DREAMS ARE NOT REMEMBERED)

The awarenesses that one experiences in sleeping consciousness are populated by evocative dream symbols. Such symbols represent emotional problems of waking consciousness that have been either separated from affect or excluded from waking consciousness. Remembering manifest dreams while awake is an example of a crossing of a boundary between cognitive domains. The longer one is awake the stronger becomes the boundary till even the manifest symbol fades from waking consciousness. This boundary is weakened by the supine position. Therefore a useful key for opening the boundary's gate is free association while lying on a couch. The referent latent content of a dream, whose manifest content is reported after sleep and while fully awake, is otherwise not immediately available to waking consciousness.

Cryptic symbol formation is amongst the mechanisms that support the establishment of boundaries between cognitive enclaves. The evocative cryptic symbols of dreaming serve a cognitive organization

that exists independently of communicative consciousness and latent referents. The distortion produced by symbolization muffles the effects of latent referent affects and reality stimuli, which would disturb sleep.

Experiences, especially those associated with too strong affect, are recorded in memory. They are not always available to waking consciousness. Dream experiences that are recalled during arousal from REM sleep can therefore slip from later availability while awake. Awakening from the cognitive domains of sleep or recovery from the cognition of psychosis requires a shift in the cognitive organization that feeds consciousness. There is a resulting loss of data. Dreams are hard to remember. As dreams are forgotten, their symbols are lost to be replaced by the symbol nets of the communicative organization of waking consciousness. This is a form of repression.

Content loss associated with a shift to another cognitive system can be undone. Free association to a recalled dream's symbols brings into waking conscious focus the connections of the symbols of dreams to their referents. This is an undoing of repression, which brings conflict areas and painful memories that would otherwise remain out of waking consciousness into awareness. There they can be addressed and worked through. This is the work of Psychoanalysis.

When active conscious waking cognition is experienced during dreaming, there occurs a conscious sensation that one is dreaming. Such a phenomenon has been considered by some researchers to be sufficiently unusual to be reported and to be given a name "lucid dreaming" (see Freud 1900 (P. 571) LaBerge 1985, 1990) A "lucid dream" is a rare type of dream in which, in spite of minimal sensory contact with the outside world of wakefulness, there is sufficient self reflective awareness for the dreamer to know that he is dreaming. Within such a dream experience, he is capable of initiating changes in manifest content. Contact with latent content may occur.

SLEEP STAGE COGNITIONS AND THEIR DREAM SYMBOLS AT DIFFERENT DEPTHS OF SLEEP

Thought processes associated with one cognitive organization tend to be opaque to (beyond the comprehension of) other cognitive organizations in the same person. Berger (1969) noted that, the nature and characteristics of dream symbols vary with the duration and stage of sleep. Cognitive styles

change with these variables. Berger's (1969) description of a dream in this context is «. . . an experience involving vivid multisensory imagery, frequently of a bizarre and unreal nature, in which the narrator himself is often involved.» (p23) The ebb and flow of the degree of symbolic distortion during sleep in consonance with the changing depths of sleep is not fully established on a scientific level. There is strong anecdotal evidence to support a stage-linked variability.

Memory bound networks of referents occupy the mind during sleep. Among these referents those with a high valence for affect have a potential to produce anxiety and to interfere with sleep. Preservation of sleep requires symbol formation and intercognitive system awareness boundaries. These are created, when representations come into sleeping awareness changed in recognizable form to less affect charged manifest symbols. The manifest characteristics of such symbols are defined by the depth and stage of sleep of the dreamer.

MEMORY NETWORKS AND REFERENTS

In dreaming, the experienced manifest symbolic image is made available to consiousness, when there is limitation of reality impingement on the ego and internal memory network contents become the source of content. The decathexis of the world of external reality during sleep forces a shift in the source of dream content away from current reality. Preferences for source are derived from internal perceptions based on the internal symbol nets used in imagining, hallucinating, daydreaming and play. The symbolic content of sleep dreams, especially during REM sleep emphasizes visual telereceptor symbolic forms.

Cartwright (1990) noted that dream referents are grouped into clusters of related concepts. Symbolic linkages are generated from the connections between members of such concept clusters, which tend to persist through the night. Displacement and condensation guide referent meanings in forming manifest derivative symbols. From these dreams are woven. She pointed out that ". . . dreams from the beginning to the end of the night often have repeated images activated not randomly but in response to some persistent issues." (p 187) Emotional connections, made up of earlier memories, are ". . . lit up selectively when the brain is activated in REM [see below] sleep." (187) The network of symbol referents that comes into play is determined ". . . by the type and level of affect carried over from the day."(147) Antrobius (1990) describes similar "Neural Nets".

PROBLEM SOLVING FUNCTIONS OF DREAMS

Need for defense against referent networks, whose unmodified content would rouse from sleep, impel the formation of the consistent manifest symbol types that typify specific EEG arousal states. (see below) Dream symbols bind strong affect by creating displaced discharge channels, whose diminished affective force is congenial to persistence of the sleep state. Most reported dreams (REM dreams and deep sleep arousal dreams) are generated in response to distressful mental content that would have disturbed sleep. Kramer (1990) noted that ". . . dreams may subserve a problem solving function. . . . the dream may succeed or fail *to contain the emotional surge* that leads to the arousal /awakening that is the hallmark of disturbed dreaming." (Page 193) ". . .the dream subserves a selective affective regulatory function".(Page 193) Most dream symbols have less valence for attracting affect than the referent in memory. Those who work with symbol theory regarding the sublime (See Burke (1757). make a similar observation. The production of the sublime image serves to bring strong affects under control through displacement. When words are associated with percepts and affect representations, psychoanalytic symbols serve as a mechanism for resolving or processing the affects.

DREAM SYMBOL REFERENTS LIE MOSTLY IN MEMORY

The retina does not see for the dreaming brain. (See Pompeiano (1970)) The eyes of the dream are inward turning eyes that browse amongst the attics and storehouses of the mind. There they find traces of perceptions and memories, which have been gathered up and organized through linkages of similarity into nets of symbols. They are there stored in associations along neural nets of the associative cortex. Some representations of such traces press toward awareness, propelled by need for drive discharge or by needs to process and put to rest recent troubling events, traumas and residua of cares of the day. Those representations which have moved closest to awareness lose access to consciousness should they produce excess affect. They are displaced by psychoanalytic symbols, which are called into play to express a drive or a fantasy gratifying need, while generating little in the way of the strong affects associated with their referents which would otherwise disrupt dreaming while asleep.

THE FORMATION OF CRYPTIC SYMBOLS RESULTS IN ISOLATION OF CONTENT FROM AFFECT

The mental mechanism of isolation separates new dream ideation from related affect charged ideas and concepts. Isolation neutralizes the affect referents with affinity for strong affect that would have attached to new ideation by association. This prevents new ideation from being pulled into a disquieting vortex of infinitely expanding discomfort. This function is often visualized as the intrusion of an impenetrable wall between idea and memory. A less mechanistic means of conceiving of such a result would be the idea of the creation of a symbol to hold the affects of the concept in a bay of cognition that is not available or disturbing to the reflective workings of the mind. In this context, the content can be called to consciousness with lessened affect. The personality, which meets its fantasied nemesis only in dreams, is freed to function free of anxiety in waking life. (see for instance, Crapanzano's Case of Tuhami (See Unit 3, Section B, Chapter 5 in which feared waking sexuality is both expressed and defended against by limitation of feelings of passion to a symbolic dream lover.)

SYMBOLIC FORMS THAT ARE CHARACTERISTIC OF SPECIFIC LEVELS OF SLEEP

The level of wakefulness of a person can be studied through recording the electrical activity of the brain (see Gibbs and Gibbs 1951) in the form of Electroencephalographic (EEG) waves. There are specific characteristics of the patterns found in each stage of wakefulness and in the four stages of sleep. Similarly, there are characteristic patterns for the symbols that typify the mentations that accompany the various levels of wakefulness and sleep.

AWAKE

There are two dominant EEG patterns when awake. Both are domains of reflective awareness. One, the *beta wave,* has low voltage with a frequency of 14 waves per second or greater. This pattern shows poor frequency and amplitude consistency within these ranges. This waveform is associated with attention. The second, the alpha pattern, has moderate voltage amplitude with a frequency of 8 to 12 waves per second. Alpha pattern shows good frequency and amplitude consistency within these ranges. This waveform indicates a mind at rest.

DROWSINESS AND HYPNOGOGIC SYMBOLS

In states of drowsiness, EEG wave frequency slows. Waves of moderate amplitude at a frequency of 4 to 6 waves per second begin to fill the recording. These are called *theta* waves. Drowsiness is associated with hypnogogic symbols.

HYPNOGOGIC SYMBOLS

Silberer (1909) studied hypnogogic symbols, which are symbols that occur as one becomes drowsy while on the way to sleep. They can occur while talking to another person, as in Psychoanalysis when either patient or therapist experiences a sense of drowsiness. They sometimes contribute to a sudden and inexplicable change in the content of an ongoing verbal interchange. Silberer viewed symbol formation as the product of a regressed (i.e. altered) state of consciousness).

Hypnogogic symbols can be studied for their meaning by the mind, which produces them, for that mind is still aware and semiawake. These symbols sometimes cause full awakening, not as a result of a porosity to affect or poorly displaced terror content, but because they give evidence of a change in the state of consciousness.

Silberer called such Symbols "Autosymbolic" (p196) a term derived from Automatic Symbol formation. In his analysis of these symbols, he relates their psychology to that of dream symbols. He identifies their sources in conscious material, as well as functional and somatic phenomena experienced prior to the hypnogogic state. The examples he gives of manifest content contain haptic elements such as heat (p 202), position, swallowing (p206), in addition to visual representations. They often occur in drowsy people during films or opera performances that fail to hold attention. For example, an operagoer dwelled on the scenery in a production of the opera Aida, whose singers had lost his attention. The mock statues and carving in stone elicited associations to a carving in sandstone of a face that he had purchased near Karnak in Egypt for about seven dollars. He entertained only a hint of the idea that it was other than a souvenir. A museum curator to whom he had shown the carving explained that there are families in Egypt that have for as long as two hundred years pursued the hereditary craft of carving excellent copies of ancient Egyptian art works. He thought of how one expert to whom it had been shown, inferred that the piece had never been in Egypt. By this point he had begun to enter into one of a series of

drowsy states. As his sensorium blurred, he experienced a return to the conversation about the false antique with the second expert in which the doubt of genuineness was immanent and he was saying to the expert "to think I spent as much as forty cents for it. I hear some people are forging these things." In parallel with the last words he was conscious of the sensation experienced when fingers are deeply set into a vagina coupled with a visual sensation of that act perceived as through a transparent body and organs. There was a superimposed sensation of grittiness perceived both through the fingers and synaesthetically his mouth.

Unless one makes a special attempt to remember and is on the lookout for these events, these experiences quickly recede from consciousness. The symbolic content of the drowsiness experience was in keeping with the patient's neurotic complexes. He was character logically preoccupied with sexual infidelity and had more than once been cheated in love as he had been through the purchase of false antiquities.

HAPTIC SYMBOLISM IN HYPNOGOGIC STATES

From the standpoint of symbolizing function, the use of haptic sensation as a manifest symbolic form should draw our attention. "Haptic sensation" refers to sensation that is experienced within the body of the symbolizer, such as touch, odor, and proprioception. One usually observes manifest symbols that are derived from telereceptor senses such as vision and hearing, which represent sensations emanating from sources beyond the boundary of the self. The haptic coloring of hypnogogic symbols is a product of the blurring of self-object boundaries during persistence of self-reflective awareness.

REPRESSION OF HYPNOGOGIC EXPERIENCE

In awakening from the experience of a hypnogogic symbol, one becomes aware of repression as an actual experience. In this circumstance repression takes the form of a sort of "sucking into the abyss" of the symbol cluster that appeared during drowsiness. One does not sense that the symbol cluster is being pushed from consciousness. One does not sense the establishment of a countercathexis, which consists of introducing substitutes that draw the attention of the system consciousness. Rather one senses an experience of symbol clusters and contexts being drawn back out of and beyond one's grasp—like some

latter day Euridyce. One must fight to hold it in consciousness. Spontaneous recall of the experience fades quickly. Hypnopompic phenomena characterize states during the shift from sleep to full arousal during which self-reflective awareness is present. The representations (symbols) that occur contain verbalizations with poor grammar. (i.e. "It's Him.")

HYPNOGOGIC PHENOMENON AND THE SOMATIC CROSSROAD

During hypnogogic phenomena, symbols are mobilized to protect against further regression into a state of sleep. The presence of both mental memory elements and haptic sensory memory elements in hypnogogic phenomena illustrates the contribution of both visually and verbally encoded experience, and somatic evocations (haptic sensations) to manifest content during the generation of symbols. This gives an inside view into the step in symbol formation at which the modalities to be used for creating a representation are reviewed for use as manifest symbols. All symbol formation may contain such an intermediate step in which there is a flair of possible symbols from which the symbol to be used will be chosen. The more narcissistic the symbolizer, the more regressed will be the preferred stage of development from which the symbol source within the flair will be derived. (See Unit Two, Section B, Chapter 5.) As a result narcissistic patients will be more likely to have a choice of symbols that will emphasize somatic (haptic and vital) internal components. The establishment of cadres of haptic sensations to be used as manifest symbols are enhanced when content linked discharge from the central nucleus of the amygdala (See Unit One, Section C, Chapter 10.) into the autonomic nervous system generates remembered sensations identifiable as associated with an organ response. These sensations become encoded in the haptic-vital memory system and become a template to be used in active evocation, which remembers through the activation of organ function. The somatiform symbols produced contribute to the content of Psychosomatic responses such as hypertension, hyperventilation, respiratory rage, and their equivalents. A second source of somatiform symbols is sensation recalled from interactions at the boundaries of the body with the world. The latter mechanism underlies incorporation. These pathways for recall make possible somatic symptoms as potential symbolic forms. This concept can be used in place of the idea of a "magical leap" as a logical explanation for psychosomatic diseases.

THE SYMBOLS OF STAGE ONE LIGHT SLEEP AND NONREM REGULAR DREAMING

When 4 to 6 per second Theta waves dominate in the EEG, the sleeper is in stage 1 sleep. If the definition of dreaming is extended to include fragmentary reports of mental phenomena, (See Berger (1969) then the dominant dreaming, reported as much as three quarters of the time during light sleep nonREM awakenings, (page 23), is fragmentary. Such dreaming resembles waking thought in that it tends to emphasize verbal modes and to lack sensory imagery. Fisher (1970) described such verbal content in non-dreaming REM states. He described «. . . mental activity, generally less dreamlike and more (like) secondary process apparent dreams.» (P 150). Such verbal emphasis in dreaming reflects a cognitive system similar to that found during waking states. Such emphasis on verbal processes may be found coloring hypnogogic periods during light sleep, and in the nonREM dreaming that occurs during descent into stage two and stage three sleep. Monroe,L.J. (1965) noted that during stage one entry sleep, hypnogogic phenomena can persist. Dream activity indistinguishable from REM dreaming can also occur. (page 25). The latter two types of mental content take up a minor portion of NREM light sleep dreaming.

STAGE TWO SLEEP—

When 4 to 6 per second Theta waves are interrupted by wave bursts called sleep spindles and K complexes, stage 2 has been reached.

STAGE THREE SLEEP—

When the brain waves slow more, high voltage three per second delta waves (see below) begin to appear and K complexes and sleep spindles disappear. This is stage 3, which is an intermediate stage. In one night, there are constant shifts in the level of sleep between stage 2 and stage 4. Shifts into stage 2 sleep occur about five times per night. Shifts down into stage 4 sleep occur one or two times.

THE SYMBOLS OF STAGE TWO AND STAGE THREE NON-REM SLEEP

Non-REM dreaming during the transition from light to deep sleep is characterized by increasing anxiety and fragmentary reports of verbal mental activity. There is a shift in content toward the experience of affect and other haptic sensations with deepening sleep.

THE NATURE OF THE REM DOMAIN

Most sleep cognitions de-emphasize but do not wholly exclude recognition of social situations and the communicative needs of others during symbol formation. (See Unit Three, Section B, Chapter Five.) REM states are distinguished by an alteration of emphasis in the selection of symbols used for representation during dreaming. The selection of affect neutral symbols fends off arousal. Internal influences and idiosyncratic visual imagery dominate the neutral sources of symbols during sustained Rapid Eye Movement sleep. By way of contrast there is emphasis on the sound of words in hypnopompic, hypnogogic, light sleep, and NREM dreaming, while there is an inward turning emphasis on affect in dreaming during arousal from fourth stage sleep.

VARIATIONS IN SLEEP STAGES TWO AND FOUR ASSOCIATED WITH AROUSAL

REM (Rapid eye movements) appear on the EEG during arousal from stage two sleep. Arousal from stage four sleep is similarly associated with a variant EEG pattern, which is called hypnogogic hypersynchrony (see Sven Brandt (1955). This pattern is characterized by synchronized high-voltage slow wave activity. Anxiety dreams and nightmares (anxiety dreams with awakening) which are a sign of failure of symbols to neutralize affect are frequently associated with and indeed activate these psychophysiological states of arousal.

SYMBOLS DURING AROUSAL FROM STAGE TWO SLEEP WHEN ACCOMPANIED BY REM

The EEG of Second-stage sleep during arousal is interrupted by the intermittent appearance of high voltage irregular waves of low frequency. These are caused by electrical currents induced by rapid movement of the eyes (REM). Periods between REM sleep bursts are characterized by stage 1 patterns. Therefore the sleeper is said to ascend from stage 2 sleep into REM sleep. REM wave periods are frequently accompanied by dreaming and a complex set of physiological changes. There are concurrent flagrant variations in respiration, heart rate, blood pressure, erections, loss of muscle tone, and cessation of the production of noradrenaline in the locus coeruleus (see Siegel (2000) p 78). ". . . serotonin neurons are silenced, but some acetylcholine neurons are very active . . .". (Damasio 1999 p249 ; Maquet 2000 p834). In a related observation, Robbins (2000) describes "a decrease in brain activity in the

dorsolateral prefrontal cortex . . . and an increase in brain activity in the regions of the visual cortex" as a result of an infusion of physostigmine in the brain. The REM state associated shift from catecholeamine frontal lobe dominance to acetylcholine occipital lobe dominance could explain the predominance of visual imagery based symbols and the altered nature of symbolization in REM sleep. The lowering of the affective tonus in the forebrain that occurs with the loss of catecholeamine decreases the kindling and triggering of displacement that supports affect neutralizing symbol formation. This results in the reduction of activation of bodily sensations of affect that prompts the creation of dream symbols. Thus REM state dreams contain visual symbols that are less distorted and close to referents in form. This opens the way to a more direct working through of less symbolized traumatic memories and day residues as well as the potential for sleep disturbing nightmares.

Ordinarily REM dreaming generates symbols to control and diminish affect. This aims at preservation of sleep during arousal from stage two sleep. Strong affect would mean an early end to sleep in one of the five or more periods during the night when there occurs lightening of sleep depth. To avoid awakening when affect threatens sleep, the referent memory must be turned away from and the placement of derivatives of the referent in consciousness achieved through more neutral symbol substitutes. This process preserves sleep from the erosive force of affect while it carries an encrypted referent message to awareness.

Failure to produce adequately protective symbols during REM sleep results in affect porous symbols and nightmares, which rouse one from sleep. The longer the REM state the greater the tendency to develop affects that could wake one. Monroe has (1965) reported that with the passage of time more emotionality, dramatic quality and distortion was found in dreams, and that dreams recalled towards the end of the sleeping period tend to be more elaborate than those dreamed earlier. (P 27) The passage of time and the intensity of drives fatigues and diminishes the effectiveness of dream symbols in preserving sleep

SYMBOLS DURING REM NIGHTMARES

Fisher (1970) defined Nightmares as dreams whose symbols attract sufficient affect (i.e. dream of being attacked by "man sized cats" (page 759) to rouse one from second stage sleep. (p 757) Though

"The REM *anxiety* dream, of all degrees of intensity, is frequently characterized by subjects as a nightmare." by definition an anxiety dream does not awaken the dreamer. Fisher (1970) illustrated a REM anxiety dream with a man's "Dream of (a) girl performing fellatio associated with fear she would bite off his penis" There was insufficient anxiety to awaken him. (P758) Fisher (1970) described a Stage 2 nightmare as ". . . somewhat more severe than the average REM anxiety dream but much less intense than the stage 4 nightmare." (see below) (p760) There is ". . . never . . . a very severe nightmare . . . arising out of stage (two)." He refers to affect rather than content. Fisher (1970) presented a stage two REM dream, which awakened the dreamer and could therefore truly be called a nightmare. The dream was ". . . about receiving a severed human leg as a Christmas gift." It was unaccompanied by increased variability in the heart rate and "no trend toward increased rate as awakening approached." (p 761) Upon awakening tachycardia set in ". . . within 45 seconds." (P 760) This was interpreted as an indicator of an affect extinguishing mechanism within the brain, which results in a diminution of discharge into the autonomic system, while at first not producing a mental representation of discomfort sufficient to waken the dreamer. (p 760) The level of anxiety parallels the horror level of the symbols. However there appears to be an anxiety control mechanism in addition to that involving displacement to less affect-laden symbols, that can lessen the consciousness of affect anxiety. As Fisher (1970) explained "It appears that the REM dream has a mechanism for tempering and modulating anxiety, for desomatizing the physiological response to it . . . abolishing or diminishing the physiological components." (p 770) This sleep protecting anti-affect could be the result of a diffusion of affect resulting from the volatility of the autonomic system during the REM state, or could be the product of the shutdown of the norepinephrine producing Locus Coerulius and increase in the production of acetylcholine in the PAG (Periaquaductal Grey Matter).

The symbolic dream derivatives of referents in memory are shaped by the sensory modalities available to dreaming consciousness. This phenomenon determines the general characteristics of the affect porous symbols created during the disturbed and disturbing dreams that occur during REM dreaming. This means that in REM dreaming the form of manifest symbolic representations de-emphasizes origins in communicatively realistic images in favor of origins in evocative visual symbols and the haptic sensations that make up anxiety. The affect associated with evocative symbols represents the energy of drives that stand ever at the ready to propel internal conflict into consciousness. When the

strength of awareness of reality sensation and the strength of communicative symbolic forms is diminished, drives become more forceful in their freedom to propel conflict into awareness at the expense of the symbolic forms which are the communicative tools of waking consciousness.

Waking consciousness aims to employ communicative modes. The orientation of waking consciousness in the sane adult is toward sensory communication with other beings and natural reality. The REM situation is different in this regard. The mind is isolated from objects in reality. Its use of symbols resembles that of the latency age child who plays with ludic symbols in the absence of the availability of physiologically based personality structures that would enable him to articulate drives with real objects in real situations.

The marked attenuation of the influence of supplies of reality sensation during REM is a result of a physiological blocking of the influence of external visual input. This blocking is a concomitant of rapid movement of the retina during REM. During eye movement no retinal input to the brain is recognized. This phenomenon is associated with all eye movement. It can be demonstrated while awake simply by looking at a mirror while shifting one's gaze from the right pupil to the left pupil. One cannot see the movement. This scientific physiological finding was described by Pompeianu in 1970. He reported that there is no neural transmission from the retina to the visual cortex in REM sleep (page 10). Pompeianu's findings could explain de-emphasis of reality-based visual influence on symbol formation during REM dreaming. As a result of this external visual de-emphasize, REM dream symbols are released to the influence of internal visual evocations. Other modalities such as hearing and smell, remaining under the muting influence of reality are preempted. As a result an unleashed intensely visual evocative mode dominates REM dream content. For this reason, REM dream symbols are primarily visual with sources, which are internal and evocative in origin and with manifest form distortions. An example of form distortion is the metamorphic symbol, which changes content during active dreaming. An example of such a symbol would be the dream character whose leg turned into the leg of a wolf during the course of a dream. This is certainly a product of a different organization of consciousness than that found during wakefulness.

There is greater emphasis on visual imagery derived from symbolic expressions of prior experience when there is no possibility of external perception. Where eyes move, eyes do not fix and there is no

perception. Absence of external visual input encourages a shift to internal visual memory input as a source of data during REM dreaming. Under these circumstances masking visual symbols are less bound to reality and reflect the fantasy pole. Internal visual imagery is unshackled through the use of symbols. Distortion through great emphasis on visual symbol formation is the means of expression of the cognitive domain that accompanies the sleep state of which Rapid Eye Movements are sometimes a part. Visual symbols are not present in pathological states when rapid eye movements are absent during arousal from stage 2 sleep that has all the physiologically labile characteristics of the "REM state". Berger (1969) noted that «. . . REMS are absent during otherwise normal REM periods in congenitally blind men and in those who have been blind more than thirty years." (p 74) Those in the latter group, who claim to continue to have visual imagery in dreams, continue to have REMS. Congenitally blind children do not report visual content in their dreams. Emphasis goes to other sensory modalities. For instance, Birmingham (1962) reported the dream of a blind child in which the child directed her steps in the dream to the living room at the right of the stairs, where she knew her mother was waiting for her. She was aware of her mother's presence and location—in spite of the absence of a visual component to the dream—as a result of the presence in her dream of her mother's perfume wafting toward her from below and to the right.

In cats, there are brain wave spikes called PGO. These are named after the ponto-geniculate-occipital visual pathway. Their appearance temporally precedes the onset of REMs. Jouvet (1969) related them to an association between REM sleep and the ". . . visual imagery of dreaming (and thus with some previous input effected during waking),the PGO spikes may represent the electrical phenomenon of a memory mechanism playing upon the central visual system." p 90.

SYMBOLS DURING AROUSAL FROM STAGE FOUR SLEEP WHEN ACCOMPANIED BY HYPNOGOGIC HYPERSYNCHRONY

The deeper the level of sleep, the slower and higher become the electro-encephalographic waveforms until stage four sleep is reached with its characteristic delta waves. These are high amplitude waves produced at a frequency of 2 to 4 waves per second. This accompanies very deep sleep, which occurs twice a night early on. It is accompanied by an increase in growth hormone production with its alteration of calcium metabolism, increase in blood sugar and sexual stimulation. Fisher (1970) noted that the degree of anxiety experienced with stage four arousal exceeds that of stage two arousal. "The

stage II arousal is related to *stage IV*, but the degree of anxiety involved is much less." (P753)

The neurophysiological characteristics of arousal from fourth stage sleep were described by Brandt (1955) and Kales (1969). As arousal occurs during fourth stage sleep, steady, high-voltage slow waves, which appear at once all over the head occur normally in children younger than five.

Brandt (1955) described the EEG patterns of healthy children from zero to five years of age. He described synchronized highvoltage slow wave phenomena as normal (sic) in this age group and designated it "hypnogogic hypersynchrony." He had first found it occurring in drowsy states and therefore called it hypnogogic. Anthony (1959) found a similar waveform in the EEGs of 20 percent of children with sleep disturbances. These waves occur in pathological states in adults. Kales (1969) in a study of the brain waves of sleepwalkers, found that somnambulism occurs with arousal from the fourth stage of sleep. These episodes characteristically begin with the sudden onset of bursts of synchronized high-voltage slow waves. Hypnogogic hypersynchrony, through which one does not pass into full awakening, is a constant concomitant of pavor nocturnus in children and severe night terrors in adults.

SYMBOLS DURING STAGE FOUR NON-REM NIGHTMARES

The non-rem nightmare was described by Fisher (1970) as a sudden, instantaneous, cataclysmic event associated with a single scene and a massive autonomic response rather than the complex unfolding story of the REM nightmare. (p744) He described the NREM nightmare as displaying ". . . naked manifestations of drive, especially aggression . . ." "These . . . are more marked in the nrem nightmare than in the REM anxiety dream." (p 774). The traumatic events that produce nightmares appear in disguised form in both the REM and NREM nightmares. Typically the referents (latent contents) of the symbols used were rape represented by storms or volcanic eruptions and choking represented by a threatening man standing at the foot of the bed with a knife.

Most NREM nightmares occur during fourth stage (deep) sleep arousal. They consist of dream variants utilizing affect porous symbols during dream stages two and four. REM nightmares during stage two sleep also utilize this symbolic form. Both REM and NREM nightmares occur during arousal. Instead of securing sleep, they hurry wakening.

Fisher (1970) noted that the longer that sleep is sustained the more severe is the horror of the stage four nightmare. (P 755) (In this regard, see the similar observation of Monroe in relation to REM stage symbols above.) ". . . the Stage IV nightmare does not serve to master anxiety, but rather represents a massive failure of the ego to control it. (P 781) The stage IV ". . . nightmare experience rapidly becomes dissociated . . ." (P 762) The "Ongoing content . . ." that stage ". . . IV dream symbols generate is not elaborate but generally refers to a single vivid scene (falling, being crushed) in contrast the prolonged highly elaborated REM dream." (p762) Stage IV dream content is ". . . coherent, psychodynamically organized, related to the subject's preexisting traumata and conflicts, and to REM dreams of the same night." (p 762) In a typical stage IV dream the dreamer was ". . . swallowing something, a necktie, or nails, when in a research setting he dreamed he was choking on an electrode. Later that night he had a dream in which he bought groceries from a girl, his cafeteria tray had electrodes attached. In the production of the manifest symbol the eating with electrodes situation was displaced from choking to preparing for lunch and the swallowing of electrodes was displaced to buying lunch with electrode attached." (Page 762) The symbols of dreams associated with arousal from fourth stage sleep are characterized by great valence for attracting affect in dreams, which contain isolated episodes. The content contains body representations and is raw with little displacement to diminish terror. The symbols are evocative in mode. Awakening from sleep is blocked by a locking in place of the activity of hypersynchronous waves rather than by defensive displacements to arousal with the production of blander symbols. Nightmare generated immediate awakening that bypasses symbol softened transitions through less deep sleep stages and accompanied by terrifying shrieks is common. In adults, the appearance of such symbols suggests severe ego pathology.

SUMMARY

There are neurocognitive states whose contents do not ordinarily cross their own boundaries of awareness. There are specific symbolic forms that characteristically dominate each state and cannot be easily retrieved in other cognitive states. This explains infantile amnesia and loss of memory for dreams. Should recalls of symbols move into conscious awareness from sleep stages and psychotic states, intense affects are generated that necessitate the mobilization of a defense such as repression.