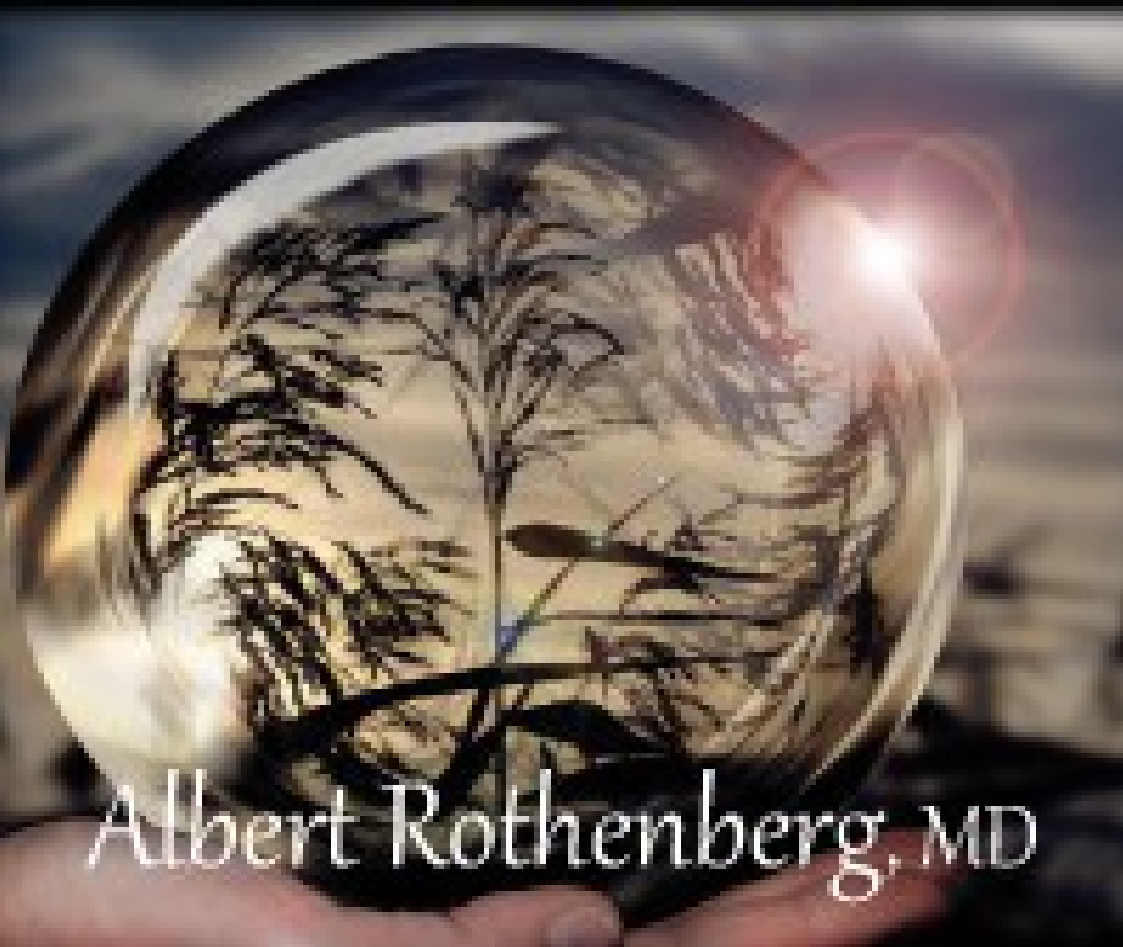
The Creative Process as the Mirror Image of the Dream



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Creativity is such a value-laden topic that any new formulation about it runs the risk of being rejected out of hand. Creativity pertains to art, scientific discovery, even theology; it touches on the most cherished areas of life and the highest ideals. It is exalted and often mysterious. For many, the mysterious aspect of creativity constitutes an important part of its appeal. Any attempt to dispel even a portion of the mystery is, therefore, resisted. There is, in fact, reason to say, on philosophical grounds, that denying the mystery of creativity is a contradiction in terms.[1]

I am not concerned here with philosophical objections because I believe I can answer them and will do so later in this volume (chap. 12). My more immediate concern is with a widespread tendency to resist any formulation about creativity by insisting that it contains nothing new. After all, creativity has been thought about for a long time. Not only have philosophers, theologians, and scientists devoted a good deal of attention to it but, throughout the history of art, creative artists themselves have reflected on the nature of creativity, within the substance of their art works and in other forms of communication. Much of what is said about creativity, regardless of how new, will have some connections to what has been said before.

Dreams and Creativity

The idea of a connection between dreams and creativity is not new. As V. G. Hopwood points out: "Tradition joins dream, prophecy and poetry. The bard is both dreamer and seer, according to an association which goes back into mythology and persists into our own period."[2] Moreover, before Freud discovered and elaborated what is now accepted as the essential nature and function of dreams, artists and theorists drew analogies between dreaming and creating. So-called visionary poets—Blake, Coleridge—reported altered dreamlike states during the creation of poetry, and Blake insisted that an entire poem came to him word-for-word during sleep in a dream. For Blake, the source of dreams and of poetry was divine. The philosophers and critics Novalis (Friedrich von Hardenberg), Jean Paul Richter, and Friedrich Nietzsche also emphasized strong connections between dreams and art and between

dreams and creativity.[3]

After Freud described wish fulfillment in dreams and the mechanisms of condensation and displacement, and developed the complete theory of primary process thinking as a form of mentation sharply distinct from the logical or secondary process thinking in waking life, a widespread interest in relating creativity and art to dreams developed.[4] The most elaborate early study was Marie Bonaparte's analysis of the life and works of Edgar Allan Poe. Making the explicit assumption that dream processes such as condensation and displacement operated directly in art, Princess Bonaparte related Poe's major themes and symbols to events and personages in his life. In Poe's story "The Black Cat," for example, she proposed that the author's mother was represented in several characterizations: the slayer's wife, the cat Pluto, and the second cat. Spelling out the analysis of the artistic work as equivalent to the dream, she stated the following: "Through *displacement*, the psychic emphasis that belongs to the mother is shifted on the unrecognizable cats or on the murderer's anonymous wife. Through *condensation*, in each of these three protagonists, the poet's mother Elizabeth has been fused with Virginia his wife and, what is more, has incorporated Catterina, Poe's cat, in two of them."[5] Other psychoanalysts became deeply interested in the symbolic content of art, both literary and visual art, and ingenious interpretations of artistic symbols, modeled after the interpretation of the symbolic content of dreams, abound in psychoanalytic writings.[6]

Freud himself made some tentative connections between the dream processes he had discovered and the creative process in art, although he purposely shied away from any overall formulations about creativity. Emphasizing the important role of daydreaming or fantasy in the creation of poetry and other types of fiction,[7] he pointed out that daydreams, like dreams occurring during the night, were motivated by unfulfilled wishes. Though daydream wishes were decidedly egoistic and therefore socially unacceptable, they were often not subject to the same degree of distortion as the personally unacceptable wishes of dreams. In creating literature, the manifestly egoistic or wish-fulfilling daydreams were, according to Freud, softened by the artist through the disguises and changes produced by formal aesthetic devices. The specific nature of the artist's disguises or the psychological properties of these formal aesthetic devices were never spelled out by Freud. But with respect to the production of jokes, a matter indirectly connected to the production of art, he suggested that the dream mechanisms of condensation and displacement played a direct role.[8] Jokes, like dreams, contained unconscious material disguised by the primary process mechanisms of condensation and displacement.

Although Freud did extend some aspects of his analysis of jokes to an analysis of the psychodynamics of the comic and thereby entered the domain of the psychology of aesthetics, he steadfastly stayed clear of any systematic formulation about the creative process.[9] It remained for Ernst Kris, the illustrious psychoanalytic theorist of creativity, to bring together implications he saw in Freud's analysis of jokes and to coin the phrase "regression in the service of the ego" as a description of the creative process.[10]

Kris's widely touted concept emphasizes the daring free play in creative thinking and purports to explain the striking leaps of imagination, the intensity, and the emotional profundity in completed works of art. Like many of the psychoanalysts exploring art before him, Kris was struck by the way that art seemed to reveal unconscious material more readily than ordinary waking thought and it appeared, like dreams, to reveal such material through symbols, images, vivid sequences, and ambiguities that conveyed intense emotional charge. As Freud's theory of dream formation indicated that these types of effects in dreams were accomplished by primary process thinking, the primitive form of thinking also considered to be characteristic of infants, schizophrenics, and culturally primitive peoples, Kris, like his psychoanalytic predecessors, postulated that primary process thinking was responsible for the same effects in art. He proposed that, similar to the ordinary condition in dreaming, the creator's attention was withdrawn from objects in reality. Although convinced that something approximating dream thought occurred during the creator's waking state, he, unlike earlier psychoanalytic theorists of creativity, saw a sharp distinction between creative thinking and the thought of children, schizophrenics, and so-called primitives, and he therefore emphasized the concomitant role of mature ego adaptive processes. He said that the creator *temporarily* regressed to primary process thinking; that is, the creator adopted the developmentally primitive modes of thought characteristic of dreaming but this regressed type of cognition was controlled by the functioning of the ego. Such controlled regression was relatively easily reversed and it served the creator's ego, replenishing him rather than overwhelming him as with the insidious regression of schizophrenia.

Kris's formulation, the analyses of art by psychoanalysts before him, and the observations of many artists and writers both prior and subsequent to psychoanalysis clearly assume and emphasize a similarity between dreams and works of art. Even in music, musicologists such as Max Graf[11] have attempted to demonstrate similarities between dream processes and musical works, despite the absence

of visual and linguistic representations characteristic of dreams. Scientific creation has also been linked to dreaming, despite the ordered, logical and seemingly unemotional content of those productions.[12]

Another widely held conception about the creative process, a conception pertaining indirectly to the similarity between creating and dreaming, is that creation is largely due to unconscious processes. This conception, again, has primarily been an outgrowth of the work of the psychoanalysts. But before psychoanalysis—long before Freud formulated his notion of the Unconscious—artists had denied that their creations came solely from conscious thought and therefore implicitly suggested this type of conception themselves. For psychoanalysts, in fact, the high degree of psychological insight about unconscious processes embodied in works of art throughout history supported the same view. Freud consistently acknowledged his own great debt to art and literature for the wealth of psychological truth and knowledge contained therein. On several occasions, he insisted that he personally had merely achieved a systematization of artistic and literary knowledge accrued through the centuries before him. Psychoanalytic studies of art and literature by Freud and his disciples seemed to reveal the dynamisms seen in patients—Oedipus complex, repetition compulsion, separation anxiety—and the conviction grew that creative artists have some type of direct access to their own unconscious contents while creating. This conviction has persisted in modern psychoanalytic writings.

Among artists themselves, the idea that art consists of the revelation of unconscious material has influenced several modern movements, including: expressionism, dadaism, surrealism, and beat as well as confessional poetry and literature. Such a conception of art has been adopted fully by the beat writers Kerouac and Ginsberg as well as others who follow a model of writing out virtually everything that comes into their minds, in the style of free association in psychoanalysis. For these writers, the closer they could come to their inner or unconscious worlds, the closer they could come to truth. And truth, for them, was synonymous with art.

Scientists and investigators of scientific thinking also have emphasized the importance of unconscious processes in scientific creation and discovery although they have sometimes differed about the manner in which these processes operate. Poincare thought there was an unconscious or subliminal self that played an important role in mathematical creation.[13] Cannon emphasized the role of what he called "extra-conscious" processes in the development of scientific hunches.[14] And Graham Wallas, in a

famous description of the phases of creative thought, discussed an early phase he called incubation, a phase in which thought went underground and, he believed, problems were worked on unconsciously both in scientific and in other types of creation.[15]

Although the emphasis on the role of unconscious processes or on the revelation of unconscious material in the creative process is not identical to the emphasis on dreams, dreamlike thought, or primary process thinking, there are many features in common, especially for psychoanalysts. Primary process thinking is the logic of the Freudian Unconscious. In the Unconscious, there are no boundaries of time or space and opposites are interchangeable. Primary process thinking functions to represent events and feelings without respect to time, space, or contradiction. Events and feelings both of childhood and of everyday adult life are represented in the same image or symbol. Church and boudoir, earth and water, are interchangeable or are represented as one. Primary process thinking is governed only by the principle of fulfillment of needs and wishes, and the primary process mechanisms of condensation and displacement function to express such fulfillment while evading internal censorship. In other words, if it were not for censorship, unconscious contents might be able to appear directly in waking or in sleeping consciousness (dream). Because primary process thinking is governed by the Unconscious, and because in waking life censorship is strongly operative, producing a virtually opaque and complete covering over unconscious contents, Freud considered dreams to be the royal road to the Unconscious. For the psychoanalyst, therefore, emphasizing the role of the Unconscious in creativity is virtually synonymous with emphasizing primary process thinking or the thinking occurring in dreams.

Before leaving this necessarily brief account of previous conceptions connecting the creative process to dreams, I must mention that another traditional perspective about creativity tends to connect non- rational processes, similar to unconscious ones, with the production of art. Affirming the nonrational quality of creative thinking has not by any means been the sole province of creative artists and psychoanalysts, but, beginning with Plato, philosophers have also emphasized nonrational, free, and sometimes dreamlike functions. Plato avowed that, while creating, the poet was possessed by "divine madness"; he was out of his mind and bereft of his senses.[16] Kant distinguished aesthetic thought from rational thought and described a soul-animating spirit as responsible for artistic creation.[17] Nietzsche, mentioned before, related both dreams and intoxication to artistic production—vision, association, and poetry with the former and gesture, passion, and song and dance with the latter. Apollonian and

Dionysian principles, which according to Nietzsche are the driving forces of art and artistic creation, correspond with dream and intoxication, respectively, in everyday life.[18] Modern philosophers, such as Brand Blanshard,[19] insist directly on the important role of unconscious or subconscious factors in creation.

The Mirror-Image Relationship: Similarity and Reversal

This summary of the impressive history of formulations, descriptions, and approaches relating creativity indirectly or directly to dreams should help clarify similarities and differences with the discovery I am presenting. All of these investigations have, I believe, been basically correct in recognizing the remarkable truthfulness of art. By truthfulness, I mean the way that art depicts or embodies psychological phenomena with extraordinary accuracy, not merely as verisimilitude or as imitating the elements of nature, but, in modern terms, as a presentation of the structure and content of the deepest levels of the human psyche. Because such a high degree of psychological truth is attained through artistic creativity (I will discuss the psychological truth in scientific creation in chaps. 6 and 13) it is reasonable to assume that the creative process has an intimate connection to unconscious processes. Further, all of these previous investigators seem to have recognized a *formal* similarity between dreams and works of art, whether or not they have spelled this out specifically. I have already alluded to some of the elements of this formal similarity such as use of symbols, ambiguity or multiple implication and meaning, wide-ranging types of structures and forms, and I would add the following: the primarily visual nature of dreams and the visual nature of painting, sculpture, etc.; the seeming novelty in the content of dreams and the novelty in art; the particularity and concreteness of dreams and art; the sense of story and sequence in dreams despite shifting time references and the similar sequential sense in art, especially in literature and music; the sharp contrasts and contradictions depicted in dreams and art; the extraordinary vividness of dreams and the vividness embodied in works of art. Also, of course, there is a crucial connection between the content of dreams and art: the sense—acknowledged explicitly by some of the theorists mentioned but also tacitly influencing others—that dreams, like art, have strong emotional connotations.

All of these similarities are, in part, the basis for saying that the creative process[20] is the mirror image of the dream. A mirror image must be similar to the object or process it reflects, but a crucially

important point about the creative process is that, biologically, psychologically, and socially, it is the reverse or obverse of dreaming.

Creative Process as the Psychological Obverse of Dreaming

Let us take the psychological level first in order to consider the point more precisely: the creative process is the obverse of dreaming in that the creator consciously uses the mechanisms and processes characteristic of dream thought and dreaming for the purposes of abstracting, conceptualizing, and concretizing as well as reversing the effects of unconscious censorship.

As a key to much that will follow, I will discuss the elements of this statement separately. (1) "The creator consciously uses": This means that the creator actively, with full logic, and in a waking, conscious state employs thought processes structurally similar to unconscious dream processes. Thus, structurally similar processes operate in the obverse aspects of the psychic apparatus, conscious and unconscious. The creator consciously pays attention to factors that are also important in unconscious thinking such as sound similarities between words—that is, rhyme, homophony, and alliteration. He works with visual and with verbal symbols. He alters time sequences. He shifts and he compresses. And he uses two specific thought processes (to be described) that are both similar and obverse, mirror images, to dream processes.

This does not mean that creators necessarily are aware that they are using thought processes similar to the unconscious processes operating in dreams. If they had been traditionally aware of this, they might well have discovered a systematic interpretation of dreams long before Freud, or they would have long ago described this mirror-image factor in creativity. But it does mean that creative thinking is primarily a conscious process and not the welling up—temporary, ego controlled, or whatever—of unconscious psychological processes. (2) "For the purpose of abstracting, conceptualizing, and concretizing": In contrast to dream thought, which produces confusing, chaotic, and manifestly illogical images and sequences, the creative process produces order and meaningful images and metaphors, as well as tight conceptualizations. The creative person engages primarily in abstract thinking, hierarchically the reverse of the primitive literality of unconscious or primary process thinking. Concrete forms are used for abstract purposes. (3) "Reversing the effects of unconscious censorship": One of the psychological goals—not necessarily an intentional one— of the creative process, particularly the

creative process in art, is reversal of unconscious censorship. Not a matter of mere catharsis, the expression and purgation of highly charged or forbidden emotional contents, there is an active unmasking and structuring of unconscious thoughts, feelings, and motives. Unconscious material is shaped and integrated into the resulting creation and, for the creator, some degree of awareness or personal insight usually occurs. This reversal of censorship accounts for the high preponderance of unconscious material in artistic creations, one of the factors contributing to the intrinsic value of art. In other types of creation, where integration of unconscious material into the product is of lesser, or of minor, importance, reversal of censorship primarily serves a function for the creator himself.

Reversing censorship is a direct result of the creator's conscious use of particular mirror-image processes. Used consciously, these processes tend to reveal unconscious material rather than to conceal and to distort, major features of the function of their primary process counterparts in dreaming. The structural reversal and similarity between the conscious mirror-image processes and the unconscious primary process counterparts are the properties responsible for the unmasking effect.

As the mirror image of dreaming, creative cognition is adaptive, progressive, and pervasively logical. It is not pervasively logical in the strict Aristotelian sense, though the creator constantly uses traditional types of Aristotelian logic along with the mirror-image processes, but logical in the sense that creative thinking is rooted in reality, and is clear about distinctions and similarities. It is capable of, and often permeated with, highly abstract formulations. According to a psychoanalytic model of thought, the mirror-image type of cognition must be considered an advanced type of secondary process rather than primary process functioning.

Because of the similarities between creativity and dreaming, previous investigators have erroneously considered creative thought processes to be identical with the primary process mechanisms responsible for dreams. Because unconscious material appears in art to a strikingly high degree, investigators have assumed that artists characteristically experience some type of altered state of consciousness in which there is direct access to unconscious material. They have assumed short and temporary or longer lasting states where so-called primitive thinking holds sway. Influenced by and in accord with Kris, most psychoanalytic investigators believe that critical thinking and other forms of secondary process cognition follow such states rapidly, or even after a time lag, and function to modify or

transform the products of primary process thought. But if we link the creative process to the primary process or to a state where there is direct access to unconscious material, the core of creative thinking becomes a reversion to childlike, primitive, or psychotic modes of thought. Though Kris and others have recognized some of the adaptive features of the creative process, especially the adaptive nature of its results, the concept "regression in the service of the ego" tends to emphasize the primary process or regressive mode of thought.

Many efforts have been made to remove the pejorative sting of this assumption about regression to primary process thinking. Temporary regression, Kris argued, also occurs in sleep and in sexual orgasm.[22] Therefore, it could be considered a type of recharging mechanism necessary for mature functioning. Another approach has been to recast the basic psychoanalytic notion of primary process thinking or to propose other formulations of the way in which primary process thinking operates in creativity. A recent notable attempt to revise the classical conception of primary process was carried out by Pinchas Noy.[23] Noy argued that primary process thinking undergoes progressive development throughout life and functions side by side with secondary process rational thought in adult waking life. Primary and secondary process thought are therefore only distinguished because of having different functions. Formulations emphasizing the expansion of ego boundaries in creativity[24] or the creative process as connected to Winnicott's transitional phenomena[25] are attempts to relate primary process thinking to adaptation and maturation. Arieti's formulation of a tertiary process mode of thought, the "appropriate matching" of "primitive forms of cognition" with secondary process mechanisms, is another instance of this type.[26]

All of the attempts to recast the concepts of the primary process or of regression, or of the role of the primary process in creativity arise from a recognition of the essential difficulty in postulating a causal, unitary, or homologous connection between creativity and the Unconscious or between creativity and dreams. There is an intrinsic disjunction between the adaptive, primarily ordering, and revelatory processes characteristic of creative thought and the primitive, primarily disruptive, and obfuscating primary processes functioning in dreams. In psychoanalysis, some of the disjunction and the pejorative quality of the theories linking creativity to the primary process can be traced directly to Freud. Although highly respectful of creative artists and of the creative process, Freud had a decided tendency to overvalue language and to consider any form of visual thinking as primitive, and therefore regressive.

This tendency was clearly operative in his formulations about the interpretation of dreams, and it also permeated his writings.[27] While there is no reason to doubt that the visual thinking characteristic of dreams is more primitive—or, at least, less communicative and precise—than waking thought, there is good reason to insist that aspects of the visual thinking occurring within the creative process, as well as other thinking characteristic of creativity, are not only not primitive but are consistently more advanced and adaptive than ordinary waking thought.

Later, in connection with the discussion of specific mirror-image thought processes, I shall clarify further the abstract advanced nature of these types of cognition. Now, I want to emphasize another feature of the obverse relationship between creation and dreaming, namely, reversal of censorship and its effect on anxiety. Structural reversal of primary process, or dream censorship mechanisms involves a reversal of their functions and effects. Where primary process operations allow distorted expression of unconscious material, operations mirroring these processes produce a degree of revelation of the actual nature of the material. This does not mean that the creator uses a mirror-image process to interpret the meaning of his or others' dreams. The functional method for interpretation of dreams has already been elaborated by Freud and his followers. That method makes use of the dreamer's direct associations to the dream, as well as other information. Reversal of dream censorship does mean that the mirror-image thinking of the creative process retraces steps and pathways also traversed by the primary process. The starting point of the creative process could include dream content: the poet starting a poem, for example, could be actively thinking about a manifest portion of a dream of the night before. But more often, it has nothing whatever to do with an actual dream; it includes other types of thought content such as words, concepts, vague emotions, remembered scenes, or mathematical symbols. Such types of thought content initiating the process are subjected to a mirror-image process tending, in some degree, to reveal underlying unconscious (as well as preconscious) preoccupations.

A patient of mine not too long ago indicated something of what I am describing here and, incidentally, also spelled out one of the differences between creative and psychotic thinking. This patient, a seriously ill but, I believe, potentially a very creative young girl, was describing some of her frustrated efforts at beginning a piece of creative writing, and she said: "The trouble is, when I try to describe her [referring to a girl to whom she had some homosexual attachment] I realize that I'm not simply describing her but I'm really revealing a good deal about myself. I think I'm frightened to find out

the things about myself I might reveal." Psychotic thinking per se lacks any features of progressive or structured insight. Results of some experimental procedures with creative (research) subjects supporting this formulation of reversal of censorship with its concomitant instigation of anxiety will be presented in the final chapter of this book.

As the creative process progresses, censorship is increasingly reversed and the creative person experiences increasing anxiety. Opposite to the dream function of keeping the dreamer asleep and consequently expressing forbidden wishes in disguised form to avoid anxiety, the creative process functions to stimulate the anxiety of the wide-awake creator.[28] This function is not adventitious to creativity, but is intrinsic to its goal. Both the goal and the method of the creative process involve mirror-image relationships with dreaming. The function of increasing anxiety, as I shall discuss shortly, contributes to the value achieved within the creative process, particularly the process of artistic creation. And increasing anxiety also pertains to what might be called the creative impulse, a term that brings us to a consideration of the biological functions of creativity.[29]

Creative Process as the Biological Obverse of Dreaming

The biological functions of creativity are also the reverse of the biological functions of dreaming. Like sleep, dreaming seems to appear fairly early on the evolutionary scale and there is reason to believe that both sleep and dreaming are necessary to life. Relatively recent research, for example, has demonstrated that rather simple animals seem to dream, and it has been postulated that dreaming is not only the guardian of sleep, as Freud said, but that it serves a crucial type of biological discharge function.[30] In any event, dreaming is a spontaneous involuntary process and, unlike creativity, it is suppressed with difficulty, if indeed it can be suppressed at all. Although it could be argued—weakly, I believe—that it is also impossible to suppress human creativity, taking human beings as an aggregate, creativity clearly is quite fragile and rather easily suppressed in individuals. Indeed, one of the cardinal issues about creativity is that the converse is markedly apparent; it is difficult, if not impossible, to stimulate creativity. Creativity appeared fairly late in human evolution. Although one could possibly consider man's first construction of tools or his first use of language as creative acts, it is difficult to discuss creativity as we conceive of it today prior to the time of the first cave drawings. In all likelihood, creativity could not become manifest in human affairs until some amount of leisure time was available. Also, man's

brain surely needed to evolve to a point where it was capable of creative activity. In both circumstances, creativity could not be an automatic spontaneous activity like dreaming, but intentional, even arduous, application and invocation were required.

Dreaming is an involuntary biological activity while creativity must be invoked, an aspect of the obverse relationship between dreams and creativity. Only when considering human beings in the aggregate could it possibly be argued that the creative impulse was a spontaneous involuntary outgrowth of social functioning. From the viewpoint of the individual creator, however, the thought processes and acts leading to a creation must always be intentionally invoked. This is simply saying that creating is always motivated, strongly so in fact. Though there are times during the creative process when thought seems to flow spontaneously and effortlessly, even to approach some type of automaticity, the reverse characteristically is the case. Extreme effort and definite conscious application and intention characterize the creative process more than other types of cognitive activity. This automatic phase resembling the automatic quality of dreams always follows effort, whereas on the other hand spontaneous and automatic dream activity may often instigate effort because of a push toward understanding, curiosity, or anxiety.

Why did human beings begin to invoke creative processes? Are there biological reasons for individuals to engage voluntarily in creative activity unconnected to the psychological motivation to produce something with important social value? A complete answer is not currently available, but one clear reason seems to be the biological factor of *arousal,* the intensification and activation of physiological processes. While engaging in the creative process, the creator is stimulated and aroused. Though this arousal occurs in different ways, one manifestation is readily apparent on superficial observation of persons while they are creating. While painting, an artist is clearly highly stimulated; he is hypersensitive and hyper alert. Easily bothered by the slightest interruption or distraction, he appears to be carried along by the impetus of the project. As he progresses in his work, enormous reserves of energy appear, energy that was not available at the beginning. He does not, in other words, necessarily begin his day's work with a good deal of energy—my creative writer subjects, for example, report that they usually take a long time to "warm up" before they get into their creative work—and energy is generated by engaging in the creative process itself. Partly because of this hyper alert and aroused state, most creative people require solitude to carry out their work. There are other reasons for the solitude as well, such as

concentration and internalized communication, but it is strongly plausible to assume that solitude is required because of arousal. Solitude not only facilitates concentration on difficult intellectual work, but it is needed because of the irritability and intensity of the hyper alert and aroused state. The temperamental artist who flies into a fury when frustrated or distracted is a caricature, but it is a caricature based on an intrinsic difference between the creative process and other types of intellectual work. A major reason for this difference is the high degree of anxiety generated by creative activity.

Biologically, this anxiety is an aspect of the protective state of physiological readiness engendered by internal or external threat. This internal and external threat in creative activity is, paradoxically, produced by the creator himself; he engages in a process of unearthing[31] unconscious material and seeking the internal and external new and unknown. These factors, as well as others, engender anxiety and a protective state of alertness.

Dreaming and creativity, therefore, function in reverse biological directions. While dreaming functions to keep the dreamer asleep, the creative process functions to arouse and alert the creator. On a biological continuum from sleep to wakefulness, the creative process operates at the wakefulness end. It functions to keep the creator awake. It is no accident, I believe, that we, the appreciators of art and literature, speak figuratively of "having our eyes opened," "being waked up" by a book or painting or musical work, or being aroused. Our figurative language is derived from a subjective perception of the biological nature of creativity. The creator's own arousal is preserved in the product he creates. When the full biological story of creativity is told, I believe that factors involving the reticular activating system of the brain, the system responsible for biological arousal and activation, will be demonstrated. Berlyne, whose work is discussed at some length in the final chapter, has already shown some connections between the reticular activating system and the experience of aesthetic pleasure.[32]

Among animals, birds, insects, and plants, the closest thing to art in human terms is the decorative coloring or intricate sound patterns that play a role in the propagation of the species. Among animals, birds, and insects, the male's decorative colors attract the female for fertilization, and musical mating sounds and calls are used in many species. Among plants, decoration is not sex-related hut functions to attract insects, who help facilitate plant fertilization. While animals, birds, insects, and plants certainly do not create their own decorations or mating calls in any way analogous to human creating, these attributes

indicate a widespread connection between art and physiological arousal. For Darwin, art or sense of beauty was preserved in evolution because of its apparent role in the propagation of species.[33] As there are reasons to challenge some aspects of this particular hypothesis, such as the fact that decorated male animals commonly seek out undecorated females rather than vice versa, arousal of a more general type could probably be considered to be a more crucial factor than sense of beauty alone in the evolutionary development of creativity. In addition to the connection between decorations and musical sounds and sexual arousal leading to fertilization, general physiological arousal involving hyper alertness and readiness has considerable survival value in its own right. Even hunters temporarily engaged in doing cave drawings might very well have been more aroused and better prepared for danger than others not similarly occupied. A more parsimonious explanation of the relationship between art and natural decorations is that humans are themselves aroused by the decorations and musical patterns in nature and consequently try to emulate them. This more psychological explanation should not, however, exclude the possibility that humans are also consciously or unconsciously aware of some direct connection between art and sexual arousal and attraction in nature. Surely, bird feathers have been used for decoration and sexual attraction from time immemorial. If Freud's famous assertion that the goal of the (male) artist is the attainment of "honor, power and the love of women"[34] has any validity, real or intuitive, it points to the partial connection between art and sexual attraction in nature.

The Role of Arousal : Anxiety and Control

Anxiety is the cardinal form of arousal involved in the creative process. Not a purely biological matter, to be sure, the mirror-image relationship of creativity and dreaming with respect to anxiety pertains also to complex psychological and social factors. Dreams function to express forbidden wishes but, because of censorship, dream mechanisms and processes distort and disguise these wishes in order to reduce the anxiety connected with their expression. Anxiety-producing dreams, or nightmares, occur only when the wish is too strong or when its expression threatens to evade disguise and censorship. The creative process is the obverse or mirror image of the dream with respect to anxiety because processes structurally similar to condensation, displacement, and other disguising mechanisms function to reverse censorship and to arouse anxiety. On a figurative scale of low to high anxiety intensity, dream processes point toward reduction and inhibition, while creative processes point toward increase and stimulation.

The creator's motivation for engaging in such a process might well seem puzzling. Why stimulate anxiety and potential discomfort rather than maintain a steady biological and psychological state? Partly, the motivation is to experience an alerted, awakened state, a state that could be biologically particularly necessary for an individual creator. As this state is also transmitted through and stimulated in others by the creator's products, it may also be necessary—or, at least, valuable—for the species as a whole. But there is another more clear- cut factor motivating the creator, a factor that definitely is highly important to society as well. This is the factor of *control.*

Much about the nature of creativity either tacitly or explicitly indicates the importance of control. The clearly magical function of artistic creation in the early phases of human history, for instance, emphasizes the essential role of control. Invariably, the subject matter of surviving primitive cave drawings were the beasts of prey or animals of the hunt which were the sources of food or the competitors for survival. Consequently, gaining magical control over such animals was very likely an important purpose of making such drawings. Dance, theatre, music, and literature as well grew directly out of magical, prophetic, or religious rituals designed to evoke some power and to gain control over the environment. In modern times, the importance of scientific creativity as a means of gaining control over nature is self-evident and requires no further elaboration. But the control function of creativity with respect to internal psychological phenomena, particularly anxiety and the reversal of censorship, may not be immediately obvious.

Though he is generally not aware of it, the person engaged in creative activity is attempting to reverse censorship of unconscious material in order to gain increased conscious control of his inner psychological world. One of the (usually unconscious) universal motives for engaging in the creative process is to gain some personal understanding, or, at least, to impose some order on inner confusion and chaos. Despite increased anxiety, or sometimes in order to gain the experience of heightened anxiety followed by relief, the creator plunges forward in a psychologically perilous activity. Anxiety is aroused and reduced, and some order is attained. The quest for truth that we know to be so characteristic of artistic creativity is partly just such a quest for control. The artist actually reveals more about his inner world than the rest of us, excepting perhaps a patient in psychotherapy, and, at the same time, he often reveals truths about the world of men and nature. There is some relationship between revelations about his inner world and revelations about the external world of nature and society, because the structure of

truth in both domains seems, in some ways, to be homologous. Partly because of this homology, the scientific creator is, in ways that will become clearer in subsequent chapters, also unwittingly motivated by a need to reveal and thereby to control his inner world. In saying this, I do not intend to declare that all creators have a higher degree of chaos in their inner world than the rest of us. The pressure toward revelation, arousal of anxiety, and subsequent control is universal. Creators, however, have a greater capacity to engage in the mirror-image process and they are usually better able than others to tolerate the attendant anxiety.

The universality of the motive to arouse and control anxiety is indicated by the widespread appeal of art itself. No one would question the proposition that a basic feature of many forms of entertainment, such as riding roller coasters or watching acrobats or stock car racers, consists of the experience of anxiety stimulation followed by relief and a renewed sense of control. An intrinsic feature of good art, not generally recognized or acknowledged, consists also of the induction of an experience of anxiety arousal followed by relief and increased control. A simple example is the pleasure engendered by suspense in literature, or in music. Tension associated with suspense is unquestionably a mild to moderate form of anxiety. More complex examples are the experiences of anxiety aroused by new perceptions engendered by every type of art. In fields outside of art, new perceptions are frequently considered valuable and accepted because of their applications to tangible matters and affairs. A new way of understanding the functioning of the cell, a new twist on a technological matter, or a new perception of a personnel problem are sometimes immediately useful. In art, however, usefulness is not a major value or an immediate concern. New perceptions are valued more for intrinsic reasons related to the experience of having and attaining them. Yet, regardless of whether or not they directly pertain to unconscious psychological material, new perceptions engender a certain amount of anxiety because they always challenge habit. The aesthetic experience of anxiety arousal followed by relief and control or anticipation of control when confronted with a new perception constitutes one of the intrinsic values of art.

Most readily apparent in attending a theatrical performance is this relationship between anxiety relief and anxiety arousal characteristic of all forms of art. At the end of a good play, there is a fair amount of relief of anxiety and tension due to resolution of suspense. But, concomitantly, there is an arousal of further anxiety as well. We all know that a really good play stimulates us to continue talking with our friends and companions for some time afterward and, after talk has ceased, to think about it for quite a

while. While this has something to do with the intellectual content of the play, emotional factors significantly enter in. We are somewhat shaken up and anxious in our intrigued and thoughtful state.[35]

Of course, many other factors besides anxiety arousal are involved in the social value and appeal of art. But saying this, I now shall rapidly culminate this outline of the obverse relationship between creativity and dreaming, for I have brought matters into the relativistic realm of sociology, the realm where absolute assertions are quickly challenged with counter examples and where the observer himself is inevitably biased by his own cultural view. Though many professionals have been able to overcome this, the problem is especially acute with respect to the sociology of art. Consequently, I shall state only the most glaring and global social level antitheses between creativity and dreaming, because they appear so self-evident and because they follow from and, in reciprocal and circular fashion, also help determine the psychological and biological circumstances I have mentioned so far.

Creativity and Dreaming in Society

With respect to social value and to communication, creativity and dreaming tend to be at opposite poles. Earlier, when I stressed the enormous aura of value associated with the topic of creativity, I anticipated no contradiction from even the most skeptical sources. The term "creative" is so heavily embued with positive value that it is virtually synonymous with "good" or "worthwhile" and, in virtually all societies, the term "creation" is almost synonymous with positive achievement. No such social value is universally and consistently conferred upon dreaming, however. In ancient times, of course, and sporadically among various groups up to the present day, dreams have been considered portents of the future or directives from a deity. But even when such beliefs are held, they seldom confer a specific value to dreaming. Most often, special persons in the society are considered to be endowed with the capacity to receive prophetic and divine dreams, or, like Joseph, specially able to interpret the meaning of such dreams. Dreaming is only one of a series of mental phenomena, including hallucinations and telepathy, considered to be endowed with such special properties. In rationally oriented, so-called civilized societies, interest in dreams has generally been relegated to the realm of superstition, astrology, and other derogated orientations. While creativity has been accorded high esteem in such societies, dreams have often been on the reverse end of the continuum. The general social viewpoint, even in these societies, has been an ambivalent one, of course, just as the general social viewpoint about creativity has

been ambivalent, but by and large dreams have been very low in the hierarchy of valued mental activities.

When Freud wrote the "Interpretation of Dreams," the predominant scientific view of dreams was that they were nonsensical and consequently without any value whatsoever.[36] The modern resurgence of interest in dreams is, as we know, a direct result of Freud's work, as well as that of Jung. But the history of hostile rejection of both Freud's and Jung's theories of dreams, when first presented and continuing into the present day, demonstrates in part a traditional reluctance to accord special value to dreaming. That such reluctance still exists is demonstrated by an instance from the modern everyday practice of psychoanalysis. Practitioners of psychoanalysis, that veritable bastion of dream valuation, have, in recent years, begun to de- emphasize dream analysis because patients find it too easy to abjure responsibility for their dreams.[37] After going through a full and extensive analysis of the underlying meaning of a particular dream, patients still find it relatively easy to insist "but it was just a dream." Or else they insist the dream was involuntary and the underlying wishes out of their control. My point is not that such denials are motivated by a desire to avoid the important truths concealed in dreams, although I certainly believe that to be the case, but that dream denigration occurs even in the psychoanalytic setting because of deeply imbued social conventions and beliefs.

I have no intention of being polemical about according value to dreams, but I intend only to describe the social value polarity between dreaming and creativity. Freud directly referred to such a polarity when he quoted Virgil at the beginning of his book on dreams, "Flectere si nequeo superos, acheronta movebo" [If I cannot bend the Higher Powers, I will move the Infernal Regions].[38] There is, moreover, a clear social rationale for the value polarity between dreaming and creativity: dreams tend to conceal, while creativity tends to reveal and to elaborate both truth and meaning. In more sociological terms, creativity, especially artistic creativity, tends to communicate while dreaming tends to distort communication.

Now that Freud (and Jung as well) has given us the tools for understanding the communication in dreams, we can, of course, say that some of the polarity between dreaming and creativity has been reduced. We know, too, that patients in psychoanalysis often produce dreams that seem geared to communicate something to their analyst.[39] Kanzer and others have spelled out some of the other

communication functions of dreams.[40] But, as Kanzer cogently points out, dreaming is the quintessential narcissistic psychological activity. Regardless of the skills of the analyst or the interpreter of dreams, dreams function primarily to keep the dreamer at rest by concealing truth and meaning from the dreamer and from other people.

Creativity communicates in many ways and on many levels at once. Even art that is very difficult to understand, or is supposedly produced for art's sake alone, has important communication aspects. Difficult art is directed at some audience, even if only a potential one, and it communicates values, emotions, complicated ideas, and, frequently, new and unprecedented principles and forms. Art produced for the artist's own sake, if there really is such a type, that is, art produced without any concern whatsoever for an audience, is either a kind of communication to the self, a personal externalization having high communication potential for others, or, despite the art-for-art's-sake artist's disclaimer, it is intended as a communication to future generations. Scientific creations must be communicated to others, and the scientists' creative thinking is so geared to a rational, communicative context it seems, in a broad way, to be the extreme antithesis of dreams.

Creativity as the mirror image of dreaming means that creativity has both social and personal value. By reversing the censorship in dreaming, the creator is engaging in an attempt to unearth unconscious material, and he is embarking on a process of gaining insight and understanding about himself, albeit in a limited way. He is also experiencing arousal and anxiety. By reversing the censorship in dreaming and by the use of the mirror-image processes involved in creating, he reveals truths in a structured and organized way. Especially important in artistic creativity, this organization and structuring of inner truth also plays a significant role in scientific creativity. Creative thoughts in science are deeply emotionally gratifying to a scientist and scientific creations often have distinct aesthetic qualities of economy and elegance. These emotional gratifications and aesthetic qualities, as well as some aspects of the practical achievement, have roots in the mirror-image-of-dreaming processes. While engaged in the creative process, the scientist uses a daring and orderly type of thought; as a mirror-image process, this thought is extremely disparate in orderliness but matched in daring with the thinking in dreams.

As the mirror image of dreaming, creativity is one of the highest, if not the highest, kind of adaptive mental process. It is not regressive, irrational, a concrete type of thinking, or even a radically altered state

of consciousness. The creator, in full consciousness, purposefully attempts to produce the most socially valuable products possible and he uses the highest mental function he possesses.

Notes

1 If creations are considered to be entities that are truly new, i.e., radically different from any antecedents, their appearance is an intrinsic mystery, i.e., it cannot be explained. Explanation implies prediction and, as the truly new is unprecedented and therefore unpredictable, it cannot be explained. See C. R. Hausman, *A Discourse on Novelty and Creation* (The Hague: Martinus Nijhoff, 1975); for a review of others arguing similar positions and a critique, see Rothenberg and Hausman, *Creativity Question,* pp. 3-26; also see chap. 12 below.

2 V. G. Hopwood, "Dream, Magic and Poetry," *Journal of Aesthetics and Art Criticism* 10 (1951—52) :152.

3 See references to Blake and Coleridge in P. Bartlett, *Poems in Process* (Oxford: Oxford University Press, 1951). Also see Novalis, *Schriften* (1798); J. P. Richter, "Uber die naturliche Magie der Einbildungskraft," *Leben des Quintus Fixlein, Samtliche Wake,* 33 vols. (G. Reimer, 1840), 3:235 ff.; F. Nietzsche, *The Will to Power,* trans. and ed. W. Kaufman and trans. R. J. Hollingdale (New York: Random House, 1967), pp. 419-53, 539-43.

4 Throughout this book, I shall refer to and discuss primary process thinking as defined by Sigmund Freud in chap. 7 of "The Interpretation of Dreams" (1900). See also D. Rapaport, *Organization and Pathology of Thought: Selected Sources* (New York: Columbia University Press, 1951), for an analysis and appraisal of primary process thinking.

5 M. Bonaparte, *The Life and Works of Edgar Allan Poe* (London: Imago,1949), p. 651.

6 Famous examples are E. Jones, *Hamlet and Oedipus* (New York: Norton, 1949; rev. ed., New York: Doubleday, 1954); H. Sachs, *The Creative Unconscious* (Cambridge, Mass.: Sci-Art Publishers, 1942, 1951); D. Schneider, *The Psychoanalyst and the Artist* (New York: International Universities Press, 1950). One of the earliest literary critics to develop a theory of poetry as analogous to dreams was F. C. Prescott (see *Poetry and Dreams* [Boston: Four Seasons, 1912]). Recent literary critics have modified Prescott's position and have produced some interesting works of criticism (see F. C. Crews, *The Sins of the Fathers: Hawthorne's Psychological Themes* [New York: Oxford University Press, 1966); S. Lesser, *Fiction and the Unconscious* [Boston: Beacon Press, 1957]; N. Holland, *Psychoanalysis and Shakespeare* [New York: McGraw-Hill, 1964, 1966]). For a comprehensive bibliography of scientific writings on art and artists, many of which treat the work of art as analogous to the dream, see Rothenberg and Greenberg, *Index: Creative Men and Women.*

7 S. Freud, "Creative Writers and Daydreaming" (1908 [1907]) (London, 1960), 9:143-53.

8 S. Freud, "Jokes and Their Relation to the Unconscious" (1905) (London, 1961), vol. 8.

9 His basic position, from which he never really strayed, is famously summed up as follows: "Before the problem of the creative artist, analysis must, alas, lay down its arms" (S. Freud, "Dostoevsky and Parricide" [1928 (1927)] [London, 1961], 21:177).

10 See E. Kris, "The Psychology of Caricature," for the first use of the term, and "On Inspiration" and "On Preconscious Mental Processes" for detailed elaborations; all are in his *Psychoanalytic Explorations in Art* (New York: International Universities Press, 1952).

11 M. Graf, *From Beethoven to Shostakovich* (New York: Philosophical Library, 1947).

12 J. J. Montmasson gave dreaming an important role in imaginative work of any kind, including that of science (*Invention and the*

Unconscious, trans. H. S. Hatfield [New York: Harcourt Brace, 1932], pp. 43 ff. W. B. Cannon reported that a great discovery by the Nobel Prize winner, Otto Loewi, apparently occurred in a dream *(The Way of an Investigator* [New York: Norton, 1945], p. 60.) Kekule's discovery of the structure of the benzene ring is usually also cited as an instance of a scientific breakthrough resulting from a dream. Although Kekule himself used the term "dream" *(Traum)* in admonishing his colleagues to creative thinking, the full context and correct translation of his remarks requires some significant modification of the traditional interpretation of his account (for references and further discussion, see n. 13, chap. 5 below). The misconception about Kekule's account has an important bearing on the point I am making here. His report of the discovery of the benzene ring does bear out that there is a similarity between dream process and creative thinking, but the obverse factor—the mirror-image relationship—has not previously been considered or recognized.

13 H. Poincare, *Science and Method,* trans. F. Maitland (New York: Dover Press, 1952).

14 Cannon, *Way of an Investigator.*

15 G. Wallas, *The Art of Thought* (New York: Harcourt, Brace, 1926).

16 Plato, *The Ion,* trans. Lane Cooper, ed. E. Hamilton and H. Cairns, in *Plato: The Collected Dialogues* (New York: Bollingen Foundation, 1961), p. 220.

17 I. Kant, *The Critique of Judgment,* trans. J. C. Meredith (London: Oxford University Press, 1952), esp. pp. 188 ff.

18 Nietzsche, *Will to Power,* pp. 420 ff.

19 B. Blanshard, *The Nature of Thought* (Atlantic Highlands, N. J.: Humanities Press, 1964), vols. 1 and 2, esp. 2:166-211.

20 In this section I shall continue to discuss artistic creativity as the general model; creativity in science and other fields will be considered later.

21 According to the classical formulation of primary process thinking, it occurs in infants prior to the development of reality testing and other ego functions. It is designated as "primary" because it is first in the human developmental sequence. Consequently, it is identified as an early or primitive mode of cognition.

22 Kris, *Psychoanalytic Explorations, p. 312.*

23 P. Noy, "A Revision of the Psychoanalytic Theory of the Primary Process," *International Journal of Psychoanalysis* 50 (1969): 155—78.

24 G. J. Rose, "Creative Imagination in Terms of Ego 'Core' and Boundaries," *International Journal of Psychoanalysis* 45 (1964) :75-84.

25 See D. W. Winnicott, "Transitional Objects and Transitional Phenomena" (1951), in his *Collected Papers* (New York: Basic Books, 1958); A. H. Modell, "The Transitional Object and the Creative Act," *Psychoanalytic Quarterly* 39 (1970):240—50; W. Muensterberger, "The Creative Process: Its Relation to Object Loss and Fetishism," in *Psychoanalytic Study of Society* (New York: International Universities Press, 1962), 2:161-85.

26 S. Arieti, *The Intrapsychic Self: Feeling, Cognition and Creativity in Health and Mental Illness* (New York: Basic Books, 1967). Also see more recently, Arieti, *Creativity: The Magic Synthesis* (New York: Basic Books, 1976), esp. p. 12.

27 For Freud, fully coherent linguistic statements and constructs were converted by means of primary process operations into the disrupted, incoherent visual representations in dreams. See J. G. Schimek, "A Critical Reexamination of Freud's Concept of Unconscious Mental Representation," *International Review of Psycho-analysis* 2 (1975) :171—87, for an excellent critique, based on

information from developmental psychology, of this aspect of Freud's formulation of primary process operation. See also, M. Edel- son, "Language and Dreams: The Interpretation of Dreams Revisited," *Psychoanalytic Study of the Child* 27 (1972):203-82, for a discussion of the analogies between Freud's dream theory and the linguistic theory of Noam Chomsky. Some years ago, at a conference at Austen Riggs Center in Stock- bridge, Mass., Erik Erikson pointed out that Freud's method of psychoanalysis contained a significant element of bias against visual perception and thought: asking the patient to lie on a couch where he and the analyst could not see each other's faces denied the importance of the visual mode.

28 Though some will argue that dreams reveal as well as conceal, the primary thrust is toward censorship. All representations, including symbols of any type, could be said to have a double nature and to reveal as well as conceal. From the perspective of psychological function, however, the relative degree of the two factors of revelation and concealment is absolutely critical. The fact of a thrust toward censorship follows from Freud's discovery that the function of dreams is to keep the dreamer asleep,- wishes are expressed in censored form. This discovery has not been superceded or overturned (see Freud, "The Interpretation of Dreams"; W. Dement, "The Biological Role in REM Sleep," in *Sleep Physiology and Pathology,* ed. A. Kales [Philadelphia: Lippincott, 1969], pp. 245-65; J. G. Salamy, "Sleep: Some Concepts and Constructs," in *Pharmacology of Sleep,* eds. R. L. Williams and I. Karacan [New York: Wiley, 1976], pp. 53-82). A recent erudite attempt at challenging the wish fulfillment and disguise principles from a neurobiological viewpoint (R. W. McCarly and J. A. Hobson, "The Neurobiological Orgins of Psychoanalytic Dream Theory," *American Journal of Psychiatry* 134 [1977] :1211-21; and Hobson and McCarley, "The Brain as a Dream State Generator: An Activation- Synthesis Hypothesis of the Dream Process," *American Journal of Psychiatry* 134 [1977] :1335-48) is unsuccessful because it fails to take the guardian of sleep discovery adequately into consideration. Moreover, in their emphasis on patterns of neuronal generation as responsible for dreams, the authors do not adequately explain their postulated interaction between neurophysiological and psychological effects. They state that there is an integration of "disparate sensory, motor and emotional elements via condensation, displacement and symbol formation" (p. 1346), but outside of postulating a mysterious isomorphism with the "state of the nervous system during dreaming sleep" (p. 1347), they do not explain why the particular mechanisms of condensation, displacement, and symbol formation function at all. This challenge to psychoanalytic dream theory therefore comes back full circle to rely on the basic contribution of psychoanalysis, i.e., explication of the dream mechanisms, to the understanding of dreams.

29 Recognizing that psychological and biological functions are not necessarily distinct, I make the distinction here for the purpose of expository clarity.

30 Dement, "Biological Role of REM Sleep," pp. 245-65. For a recent assessment see Salamy, "Sleep: Some Concepts and Constructs," pp. 71-73.

31 Throughout this book I shall use the term "unearthing" to refer to bringing unconscious material *close or closer* to awareness without necessarily bringing this material directly or fully into awareness.

32 D. E. Berlyne, *Aesthetics and Psychobiology* (New York: Appleton, Century, Crofts, 1971).

33 See C. Darwin, *The Descent of Man,* 2d ed. (New York: Appleton, 1892), esp. chap. 3.

34 S. Freud, "Introductory Lectures on Psychoanalysis, Part III" (1916-17) (London, 1964), 16:377.

35 Some may see this explanation as the traditional Aristotelian one emphasizing pity and terror. To set the record straight, the factor of anxiety arousal and resolution is more complicated and, very likely, also more basic than pity and terror together. For one thing, anxiety arousal enters into both emotions.

36 Freud quoted the common expression *Trdume sind Schimme* (dreams are froth) as representative of the scientific viewpoint of that and earlier times (Freud, "Interpretation of Dreams," p. 133).

37 See discussion in L. L. Altman, *The Dream in Psychoanalysis* (New York international Universities Press, 1969), pp. 1-4.

38 S. Freud, *Die Trdumdeutung* (Leipzig: Franz Deuticke, 1900), title page. Although Freud specified in *Gesammelte Schriften* 3 (1925) :169, that "this line of Virgil (*Aeneid,* VII, 312) is intended to picture the efforts of the repressed instinctual impulses" (trans. J. Strachey et al.), he nevertheless used it as a general motto for the whole volume on dreams. This motto also embodies his basic approach to psychology, i.e., gaining insight into the higher mental processes such as normal development, consciousness, adaptive behavior, and creativity through studying the "lower" ones: abnormal functioning, the unconscious, everyday mistakes, and the dream.

39 There is growing tendency among psychoanalysts, and psycholinguists as well, to emphasize the revelatory aspects of symbols and of dreams. This must be considered an "after the fact" position. We now understand dreams and symbols because we have many more tools to do so. Only rarely can it be said that the dreamer's motive is primarily communication; dreams are a more "royal road to the Unconscious" than waking life primarily because the complexities of consciously motivated activities are absent. Waking activities are, now that we have the tools for understanding, also royal roads to the Unconscious.

40 M. Kanzer, "The Communication Function of Dreams," *International Journal of Psychoanalysis* 36 (1955) :260-66; A. Roland, "The Context and Unique Function of Dreams in Psychoanalytic Therapy: Clinical Approach," *International Journal of Psychoanalysis 52* (1971) :431-39; J. Klauber, "On the Significance of Reporting Dreams in Psychoanalysis," *International Journal of Phychoanalysis* 48 (1967) :424-32; M. S. Bergmann, "The Intrapsychic and Communication Aspects of the Dream," *International Journal of Psychoanalysis* 47 (1966) :356-63.