

MEDITATION AND NOCTURNAL DREAMS IN THE PSYCHOLOGY

OF C.G. JUNG: AN EXPERIMENTAL INVESTIGATION

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degree of Master of Arts in Psychology

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"If the myth is the outer expression of the human condition's most basic struggles, joys and ambiguities, then the dream is its inner voice."

Sheldon Kropp

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ABSTRACT

Meditational practices and sleep states have been viewed as related in the traditional doctrines of Yoga. Recent research on the physiological correlates of meditation has tended to confirm this relationship, although some controversy has arisen. Moreover, C.G. Jung postulated a relationship between the therapeutic technique of Active Imagination, which he described as a form of meditation, and dreaming.

In the present investigation, the laboratory and home dreams of seven experienced practitioners of Yogic meditation are compared to those of a group of seven matched control subjects on measures of dream recall, amount of dream material and archetypal (transpersonal) content of dreams. In addition, the two groups are compared on measures of manifest sexuality, physical and verbal aggression, hedonic tone and active participation in dreams.

The dreams of the meditators contained significantly more archetypal elements, reflecting universal, moral themes than did those of the non-meditators, which were characterised by a predominance of personal, everyday issues. Furthermore, there was a significantly higher recall rate and amount of content in the laboratory dreams of meditators.

Archetypal dreams were reported at greater length than non-archetypal dreams. The dreams of the meditators contained significantly less manifest sexuality and significantly more active participation than those of the control group. No significant differences emerged between the two groups on the measures of physical and verbal aggression,

and hedonic tone in dreams.

The findings are discussed with reference to the possible differential effects of the practice of Active Imagination and Yogic meditation upon dream content.

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INTRODUCTION

I.0 THE AIMS AND OBJECTIVES OF THE PRESENT INVESTIGATION

Recent scientific investigation of meditational practices has resulted in controversy concerning the equivalence or non-equivalence of meditational and sleep states as assessed by the EEG (Electroencephalogram) (Wallace 1970; Wallace et al., 1971; Wallace and Benson, 1972; Banquet, 1973; Wada and Hamm, 1973; Otis, 1974; Banquet and Sailhan, 1976; Pagano et al., 1976). This controversy tends to support the traditional Yogic conceptualization of meditational and sleep states being related, in that the practitioner of meditation is said to aim at penetrating sleep states without relinquishing continuity of consciousness (Eliade, 1969). Furthermore, writers on Yoga have contended that dreams become less frequent, and finally cease altogether during the practice of Yogic meditation (Muktananda, 1976; Sivananda, 1967). On the other hand, certain Yoga derived meditational techniques emphasise the value of dreams as a method of meditation (Evans-Wentz, 1974). A relationship between meditation and sleep mentation has also been suggested in Western thought, in the C.G. Jung observed that the systematic practice of the therapeutic technique of active imagination, which he described as a form of visionary meditation, results in a diminution of dream material and a decreased frequency of dreams. As yet, however, no experimental research has attempted to relate the practice of meditation to Western theories and experimental findings concerning sleep mentation, specifically mentation characteristic of the Rapid Eye Movement (REM) phase of the sleep cycle, and nor has any attempt

been made to relate meditation to theories concerning the nature and function of dreams as formulated by Western Depth Psychology.

The first aim of the present investigation was therefore to attempt to establish whether the practice of Yogic meditation is indeed accompanied by a decreased frequency of dream reports. The second aim was to establish whether the practice of Yogic meditation is accompanied by a diminution of dream material, as assessed by a word count index of the length of dream reports of practitioners of the discipline. The third major aim of the study was to establish whether the practice of Yogic meditation is accompanied by any discernible changes in dream content, and, if so, what the nature of these changes are.

The rationale for the third aim of the study concerned C.G. Jung's distinction between two types of dreams, namely the 'personal' dream, which is said to reflect the everyday life situation, current problems and conflicts of the dreamer, and the archetypal (transpersonal) dream, which is said to mirror fundamental, universal processes of psychological development. These latter processes are said to appear in dream content as allusions to the themes, images and motifs of mythology, folklore and universal religious symbolism, and the archetypal images in such dreams are interpreted as reflecting the dreamer's concern with collective moral themes and issues rather than personal issues (Jung, 1972 a, pp.177-183). Kluger (1975) has further characterised the contents of the archetypal dream as comparatively vivid, emotionally charged, remote from everyday life, bizarre and irrational, and has

distinguished these two categories of dreams in a normal population experimentally. Jung noted that the frequency of archetypal dreams tends to increase during critical transitional stages of psychological development, where the typical, universal nature of these processes is reflected in archetypal (transpersonal) dream imagery (Von Franz, 1972). Such dreams are however especially characteristic of individuation, a process of psychological maturation or unfoldment induced by analysis of the unconscious (Jacobi, 1968, p.107), and tend to increase markedly as analysis progresses (Jung, 1972 b, p.160). Individuation is also translatable as "self-realisation" (Jung, 1972 a, p.173). Jung, in fact, developed a technique for facilitating individuation, which he termed Active Imagination. As previously mentioned, he characterised the method as a form of "visionary meditation" (1971 a, p.215), and equated its aim with Eastern meditational techniques, notably Yogic meditation, which he conceptualized as a form of "technical transformation" of the personality (Jung, 1971 g, p.129). If Yogic meditation does indeed facilitate individuation or "self-realisation", then it would be expected, in terms of Jungian theory, that an increase in archetypal material would be associated with its practice. Furthermore, it would be expected that this increase in archetypal material would be reflected in dreams, since the dream is, in Jung's view, the primary means of access to the unconscious, and reflects the overall situation in the personality (Jung, 1954 a, p.142).

It was further hypothesised that the practice of Yogic meditation might be accompanied by other specific changes in dream content, apart from an increase in archetypal material. Writers on the Yoga-derived

technique of Transcendental Meditation (TM) conceptualize the technique as a procedure for "unstressing" the nervous system (Mahesh, 1966; Goleman, 1971; Kanellakos and Lukas, 1973). Unstressing is said to involve the discharge of accumulated stresses and tensions of psychophysiological origin on the physiological level. Writers on classical Yoga have characterised the chief stresses or "disturbances" inimical to concentrative meditation as sexuality and aggression and the aspirant meditator is taught to "eliminate" these "desires" (Sivananda, 1967). If meditators are in fact "eliminating" sexuality and aggression, it could be expected, in terms of Jungian theory, that this process would be reflected in dreams as a decreased incidence of sexual and aggressive themes in dream content. It would further be expected that the hypothesised "stress release" of meditation would be reflected in dream life as a decreased incidence of dreams of an "unpleasant" nature, i.e. that dreams would become more hedonically positive in tone.

The final aim of the dream content investigation of this study was to assess whether the active participation of the individual in his own fantasies emphasised by Jung in his outline of the method of active imagination (1972 c, p.216) is also central to Yogic meditation. It was predicted that if this increased concentrative ability engendered by the cultivation of active participation in waking fantasy products is also characteristic of Yogic meditation then this would generalise to nocturnal fantasy products, i.e. dreams, and would be manifested as an increased involvement by the dreamer in his own dream.

2.0 THE FUNCTION OF DREAMS AND MEDITATION IN ANALYTICAL PSYCHOLOGY

2.1 C.G.Jung's theory of psychic structure

C.G. Jung's position within the range of metatheoretical orientations of Psychology is essentially that of a Phenomenologist (1971 b, pp.54-56); his formulations are primarily descriptive of what he termed 'psychic reality'. As its terminology indicates, this concept proceeds from the assumption that all experience, be it designated 'mental' or 'physical' in origin, is experienced as a psychic image; only indirect and hypothetical inferences can be made concerning the 'real' nature of phenomena (1960 a, pp.383-384). Jung elaborates his position in the following passage: "... it seems to us that certain psychic contents or images are derived from a material environment, to which our bodies also belong, while others, which are in no way less real, seem to come from a mental source which appears to be very different from the physical environment ... if a fire burns me, I do not question the reality of the fire, whereas if I am beset by the fear that a ghost will appear, I take refuge behind the thought that it is only an illusion. But just as the fire is the psychic image of a physical process whose nature is unknown, so my fear of the ghost is a psychic image from a mental source; it is just as real as the fire, for my fear is as real as the pain caused by the fire. As for the mental process that underlies my fear of the ghost - it is as unknown to me as the ultimate nature of matter ... this puts an end to the conflict of matter and mind as contradictory explanatory principles. Each becomes a mere designation for the particular source of the psychic

contents that crowd into (the) field of consciousness. (I945, pp.220-221). The above passage has been quoted at length since it will be essential to bear Jung's assumptions in mind throughout the presentation of his complex ideas which follows; aside from their descriptive objective mentioned above, Jung's theories attempt to explain to some extent the underlying structure and dynamics of the processes designated 'mental' in origin.

2.I.I Consciousness as a function of the Ego

Jung used the term 'psyche' to designate the totality of all psychic phenomena. Observation indicates that we are only aware of a comparatively small part of this totality, and that this awareness undergoes continual modification as attention shifts. If we adopt the position that we are only aware of the psychic images of 'internal' and 'external' processes and objects, then that of which we are aware at any given moment in time constitutes the field of consciousness. Consciousness could theoretically encompass the totality of the psyche, but in practice it moves within a very circumscribed area or field, due to its association with the Ego. Consciousness is in fact defined by Jung as 'the function or activity which maintains the relation of psychic contents with the Ego (I949 a, pp.535-536). Elsewhere he writes "There can be no consciousness when there is no one to say 'I am conscious'" (I971, c, p.283). Knowledge of phenomena depends therefore upon a relation of identity with a subject, the Ego, which Jung defines as 'a complex of representations which constitutes the centre of my field of consciousness, and appears to possess a very

high degree of continuity and identity. The Ego is the subject of consciousness. All our experience of the outer and inner world must pass through the Ego in order to be perceived" (1949 a, p.540). Consciousness is conceived of as having a variable threshold, so that different degrees and qualities of consciousness are possible, as for example in sleep, comatose states, hallucinatory states, etc. Normal waking consciousness, however, depends upon the continuity and relatively stable functioning of the Ego. It follows that while the ego is not synonymous with consciousness, it determines the quality and orientation of consciousness to major degree, and this is especially true of Western culture, where consciousness is primarily orientated towards adaptation to external reality (Jacobi, 1968, p.7). This directed nature of 'ego consciousness', as it has come to be called by several authors, results in potential experience being excluded from consciousness. It is for this reason that Jung writes "relations to the ego, insofar as they are not sensed as such by the ego, are unconscious" (1949 a, p.536).

2.1.2 The Personal Unconscious

Jung defines the unconscious simply as "the totality of all psychic phenomena that lack the quality of consciousness" (1949 a, p.613). The first 'level', so to speak, of the unconscious is made up of "forgotten, repressed, subliminally perceived, thought and felt matter of every kind" (Jung, 1949 a, p.616). The directed nature of consciousness results in it only being able to hold or contain very few contents at any one time, with the result that many potentially

conscious contents are perceived subliminally, or else are consciously perceived and quickly discarded or 'screened out' of awareness. Jung describes the contents of the personal unconscious as follows: "Everything of which I know, but of which I am not at the moment thinking, everything of which I was once conscious but have now forgotten, everything perceived by my senses but not noted by my conscious mind, everything which, involuntarily and without paying attention to it, I feel, think, remember and want to do, all the future things which are taking shape in me, and will sometime come to consciousness" (1960 b, p.185).

The personal unconscious is in addition the repository of psychic material which has been repressed because of its disagreeable nature and/or its incompatibility with the ego. This material may aggregate to form what are termed complexes, described as conflicts or "feeling toned ideas" (Jung, 1972 d, p.21). The adjective 'personal' is used to describe this area of the unconscious precisely because its contents were or will be acquired during the individual's lifetime; they were either once conscious or else have the capability of achieving consciousness, and are closely co-ordinated with the needs of the ego. Jung compared the concept of the personal unconscious to James' "trans-marginal field of consciousness" and Myers' "subliminal consciousness". (1960 b, p.185). It is also said to be comparable to the Freudian concept of the unconscious which results or arises by means of the mechanism of repression.

2.1.3 The Collective (Transpersonal) Unconscious

Thus far some more readily comprehensible and acceptable aspects of Jung's thought have been presented. The hypothesis of a collective or transpersonal unconscious has resulted in considerable controversy, and is far from being generally accepted (Hall and Lindzey, 1970). These authors describe the concept as "the most original and controversial feature of Jung's personality theory" (p.83). Jung defined the collective unconscious as a "part of the psyche which can be negatively distinguished from the personal unconscious by the fact that it does not owe its existence to personal experience, and consequently is not a personal acquisition" (1971 d, p.42) and characterised it as a "phylogenetic substratum" (1971 c, p.286) structured according to patterns of life and behaviour derived from ancestral inheritance. Certain dominants or principles are discernible in these patterns, which Jung termed Archetypes. Archetypes are defined as "factors which arrange the psychic elements into certain images, characterised as archetypal, but in such a way that they can only be recognised from the effects which they produce" (1969 a, p.149). This definition can be broken down into two propositions, a procedure which Jung himself followed from 1946 onwards; on the one hand there is the concept of 'factor', which Jung termed the Archetype 'as such', and on the other the concept of the psychic image or representation of that factor, the Archetypal 'image'. A discussion of the latter proposition will be presented first.

Archetypal images are discernible in dreams, fantasies, myths, fairy-

tales and the symbolism and metaphors of world religions. Jung's hypothesis of a collective unconscious structured according to archetypes rests primarily upon his observation of the close correspondences between the psychic products revealed in the fantasies and dreams of contemporary individuals, and those found in the symbolism and themes of mythology etc.; the tracing of these correspondences constitutes the method of proof. A number of authors have drawn attention to the parallels between the images found in dreams and fantasies and those of mythology, religious symbolism and folklore/fairytales (Freud, 1913 a, 1913 b; Abraham, 1913; Kauner, 1928; Baynes, 1940; Jung, 1971 a, 1971 e, 1971 h, 1956; Campbell, 1956, 1959; Von Franz, 1972; Henderson, 1964, 1967; Henderson and Oaks, 1963). The individual is generally unaware of the analagous mythological motif (Jung, 1971 d). "These products", writes Jung, "are never (or at least very seldom) myths with a definite form, but rather mythological components which, because of their typical nature we can call 'motifs', 'primordial images', 'types' or - as I have named them - archetypes ..." (Jung, 1971 e, p.153).

Archetypal images are revealed under conditions of reduced intensity of consciousness, when the habitual focused outward orientation of consciousness is diminished, as for example in psychotic episodes, dreams, delirium and 'visionary' states, when, as Jung states, "the check put upon unconscious contents by the concentration of the conscious mind ceases, so that the hitherto unconscious material streams, as though from opened sluice gates, into the field of consciousness" (1971 e, p.155). This condition is seen by Jung as

corresponding closely to the state of consciousness of primitive man, where myths were, and still are, the chief means of ordering experience, and Jung therefore feels that the mode of origin of the contemporary individual and mythical types is the same; both correspond to an archaic mode of thought and it was this line of reasoning that led Jung to account for the origin of archetypal images in terms of "the deposits of the constantly repeated experiences of humanity" (1972 d, p.69). Elsewhere he writes, "The archetype is a kind of readiness to produce over and over again the same or similar mythical ideas. Hence it seems as though what is impressed upon the unconscious were exclusively the subjective fantasy ideas aroused by the physical process. We may, therefore, assume that the archetypes are recurrent impressions made by subjective reactions" (ibid, p.69). For example, the daily path of the sun is a repetitive physical fact which has been experienced by many generations. The impression left by this physical process upon the psyche is reproduced as the myth of the 'sun hero' in its many variations; but why does the psyche mythologise the daily path of the sun, rather than merely record the physical facts? It is because, states Jung, "the archetype does not proceed from physical facts but describes how the psyche experiences the physical fact" (1971 e, p.154).*

Jung therefore postulated a myth-forming factor in the unconscious psyche, which is conceptualized as an inborn predisposition to respond in a set pattern to experience; this factor is the archetype 'as such', mentioned earlier.

* Emphasis added

Before the nature of the archetype 'as such' is discussed, a further aspect of the archetypal image must be elaborated, and this concerns how consciousness experiences these images. The collective fund or storehouse of experience summarised in the archetypal image is perceived as an immense 'fount of wisdom'; the image is invariably affect-laden, and tends to exhibit a numinous quality; it fascinates consciousness, precisely because it seems so alien to its contemporary contents. The numinous fascination of the archetypal image is illustrated in the following passage by Jung. He writes: "If it were permissible to personify the unconscious, we might call it a collective human being combining the characteristics of both sexes, transcending youth and age, birth and death, and, from having at his command a human experience of one or two million years, almost immortal. If such a being existed, he would be exalted above all temporal change; the present would mean neither more nor less to him than any year in the one hundredth century before Christ; he would be a dreamer of age-old dreams, and, owing to his immeasurable experience, he would be an incomparable prognosticator. He would have lived countless times over the life of the individual, of the family, tribe and people, and he would possess the living sense of the rhythm of growth, flowering and decay" (1945, p.215). It can readily be seen how many religious traditions conceive of their gods in similar terms. For Jung the 'gods' are none other than the archetypal components of the 'other' in man, the collective unconscious.

The archetype "as such" is conceptualised as an a priori conditioning factor, representing the psychic aspect of biological behaviour patterns.

The fixed pattern of responding observed in the myth formation process led Jung to postulate a correspondence between the archetypes and the instincts. He writes, "the archetype as such is the self-portrait of the instinct, or the instinct's perception of itself" (1960 b, p.291). Instincts are defined as "impulses to carry out actions from necessity, without conscious motivation which are not individually acquired but inherited" (Jung, 1960 c, p.133). The archetype is thus the psychic counterpart of the fixed pattern reactions described by the Ethologists. On the psychological level in man, an instinct is represented as a form of intuition. "Intuition", states Jung, "is an unconscious process in that its result is the irruption into consciousness of an unconscious content, a sudden 'idea' or hunch. It resembles a process of perception, but unlike the conscious activity of the senses and introspection, the perception is unconscious. That is why we speak of intuition as an 'instinctive' act of comprehension. It is a process analagous to instinct, with the difference that whereas instinct is a purposive impulse to carry out some highly complicated action, intuition is the unconscious, purposive apprehension of a highly complicated situation" (1960 c, p.132). Intuition extracts what is typical in a situation, and as it were synthesises the most relevant and salient characteristics of a process or situation into an image of the totality of that process or situation; it thus often seems to be superior to the analytical methods of the intellect and consciousness. This predisposition to perceive the whole rather than its constituent parts can therefore be seen to be the primary mode of functioning of the collective unconscious (Jacobi, 1974); at this level of the psyche it would seem that man is predisposed to perceive holistically. Jung therefore described the

archetype "as such" as an "inborn form of intuition" (I960 c, p.I33). The archetypes are "the necessary a priori determinants of all psychic processes ...", and he continues, "... just as his instincts compel man to a specifically human mode of existence, so the archetypes force his ways of perception and apprehension into specifically human patterns" (ibid, p.I33). In this regard Jung has been criticised for subscribing to the doctrine of acquired characteristics, on the grounds that remembered images and experiences cannot, according to present biological knowledge, be inherited. Jung has replied, "Of course this term (archetype) is not meant to denote an inherited idea, but rather an inherited mode of psychic functioning, corresponding to that inborn way in which the chick emerges from the egg, the bird builds its nest, a certain kind of wasp stings the motor ganglion of the caterpillar, and eels find their way to the Bermudas" (I955, p.43).

Since the primary mode of actualisation of instinct is physiological, and results in behaviour patterns, and the archetype is psychological in manifestation, Jung postulated an identity between the two modes of manifestation. At root, the archetypes and the instincts are conceived of as existing in a state of potentiality, in which neither the psychic nor the physical aspects have become differentiated. Jung used the term "psychoid" to denote this condition of undifferentiated potentiality; the term means "psyche-like" or "quasi-psychic". He writes: "It seems to me that the real nature of the archetype 'as such' is not capable of being made conscious, that it is transcendent, on which account I call it psychoid" (I960 b, p.2I3). Elsewhere he writes, "The collective unconscious represents a psyche that ... cannot

be directly perceived or represented, in contrast to the perceptible psychic phenomena, and on account of its irrepresentable nature I have called it psychoid" (ibid, p.436). The form of the archetype in its potential state is compared to the "axial system of a crystal, which, as it were, preforms the crystalline structure in the mother liquid, although it has no material existence of its own. This first appears according to the specific way in which the ions and molecules aggregate. The archetype in itself is empty and purely formal ... it is nothing but a possibility of representation which is given a priori" (Jung, 1971 f, p.79). It should be emphasised that Jung used the term psychoid in a very limited and tentative fashion. It is a purely hypothetical construct predicted on the basis of the configuration of archetypal imagery.

In response to a specific situation in consciousness, an archetype will be "constellated". By this Jung means that the realm of psychoid potentiality is activated in accordance with the requirements of the conscious situation, and is actualised as an image which stands in a compensatory relationship to the conscious situation. When the contentless form of the psychoid archetype becomes "filled out" or rendered visible by the stream of images present in the unconscious, the resulting configuration of imagery always takes on a form relevant to the conscious situation; it is as if the images present in the unconscious were drawn together to form an image or series of images which reflect(s) the conscious situation from a relatively 'timeless' and 'eternal' perspective. It is for this reason that the archetypal image is described as a healing factor; the form taken by the image can however

also overwhelm and terrify consciousness when it is unprepared to cope with such material; the latter occurrence is often contingent upon the unconscious being artificially stimulated, by the use of drugs for example. When consciousness is guided by means of analysis, the effects of the unconsciousness are generally beneficial.

2.2 The Relations between Consciousness and the Unconscious

Jung conceived of the relations between the conscious and unconscious systems of the psyche as being dynamic; movement and interchange between the systems is accounted for in terms of the concept of psychic energy. This concept of energy is used by Jung to designate the intensity of the psychic process as gauged by psychic manifestations and effects, i.e. their psychological value. "Values", states Jung, "are quantitative estimates of energy" (1960 e, p.9). The abstraction 'psychic energy' is applied to experience in terms of motion and force when actualised (drives, wishes, will, affect, etc.) and as a state or condition when potential (acquisitions, possibilities, aptitudes, etc.).

The psyche is conceived of as a self-regulating system, with a general opposition between consciousness and the unconscious. This opposition results in the necessary inner polarity or tension which is a prerequisite for the existence of energy. Jung states that experience in analytical psychology indicates that this tension between the two systems of the psyche takes the form of the unconscious compensating or complementing consciousness. Jung suggests the following four reasons for this relationship:

- "(1) Consciousness possesses a threshold intensity which its contents must have attained, so that all elements that are too weak remain in the unconscious.
- (2) Consciousness, because of its directed functions, exercises an inhibition (which Freud calls censorship) on all incompatible material, with the result that it sinks into unconscious.
- (3) Consciousness constitutes the momentary process of adaptation, whereas the unconscious contains not only all the forgotten material of the individual's own past, but all the inherited behaviour traces constituting the structure of the mind.
- (4) The unconscious contains all the fantasy combinations which have not yet attained the threshold intensity, but which in the course of time, and under suitable conditions, will enter the light of consciousness"
- (1960 f, p.69)

The directed functions of consciousness, although of the highest adaptive value evolutionarily, inevitably result in the exculsion or inhibition of all psychic elements which are incompatible with the adaptive needs of the environment. This generally takes the form of a one-sidedness or over-emphasis on a value or system of values on the part of consciousness, which results in a devaluation or "de-energising" of other potential values; this energy is lost to consciousness, and tends to accumulate in the unconscious, where it manifests as a corresponding psychic constellation which compensates the conscious attitude. If the one-sidedness of consciousness is sufficiently

intense or exaggerated, an archetype, relevant to the conscious situation, will, as previously mentioned, be constellated. Activation of the collective unconscious in this fashion can be either beneficial or harmful, depending upon the needs of consciousness at the time, but it is generally dangerous if consciousness is unprepared and if the counter position in the unconscious possesses too high an energy value, as for example in psychosis.

The principle of compensation operates then according to the 'law' that "the energy charge of the unconscious increases in proportion as that of consciousness diminishes" (Jacobi, 1968, p.55). The movement of energy between the conscious and unconscious poles of the psyche tends toward equalisation, or what would become a complementary relationship, where the psychic opposites are in equilibrium. This condition, where conscious and unconscious balance and complement one another, is the aim of analytical treatment, and is achieved by facilitating the harmonious interchange of energy between the systems, so that neither loses its intrinsic character or is disturbed or overwhelmed by the function of the other.

The interchange of energy between the conscious and unconscious systems of the psyche may be either progressive or regressive. Progressive movement constitutes "a process that takes its direction from consciousness and consists in a continuous and unobstructed adaptation to the conscious demands of life ..." (Jacobi, 1968, p.57). Consciousness and the unconscious complement one another. Regressive movement occurs 'when the failure of conscious adaptation and the resulting

intensification of the unconscious, or a repression, provokes a one-sided accumulation of energy as a result of which the contents of the unconscious, unduly charged with energy, rise to the surface" (ibid, p.57). This process usually results in a reversion to an earlier stage of development which is manifested as a neurosis; if the regression is complete, consciousness is overwhelmed by the unconscious, which amounts to a psychotic breakdown.

2.3 The Structure and Function of Dreams in Jung's Psychology

Jung designates four methods for investigating unknown psychic material, which are the association method, symptom analysis, anamnestic analysis and the analysis of the unconscious. It is the last named method which is relevant to the present investigation, in that the chief means of access to the "living psychic material" (Jung, 1954 b, p.54) is through dreams. According to Jung, the dream is a "spontaneous self-portrayal, in symbolic form, of the actual situation in the unconscious" (1960 g, p.49). Elsewhere he writes, "The dream is a statement, uninfluenced by consciousness, expressing the dreamer's inner truth, as it really is, not as I conjecture it to be, and not as he would like it to be, but as it is" (1954 c, p.142). This viewpoint is elaborated by Jung as follows: "The dream cannot be explained with a psychology taken from consciousness. It is a determinate functioning, independent of will and wish, of intention and conscious choice of goal. It is an unintentional happening, as everything in nature happens" (Jung, 1938 in Jacobi, 1973, p.70). He continues, "It is on the whole probable that we continually dream, but consciousness makes such a noise while

waking that we do not hear it. If we could succeed in keeping a continuous record, we should see that the whole follows a definite trend" (ibid, p.70).

Jung conceptualised the dream then as a wholly natural psychic phenomenon, of an autonomous kind, which expresses the ongoing activity of the psyche in a structure and form which differs markedly from the continuity of development characteristic of the logical sequence of ideas typical of conscious functioning; the structure and form of dreams comprises a language of archaic, prelogical and often fantastic images. Dream images and sequences appear to display a purposiveness unknown to consciousness. In common with other analytical systems, Jung attributed a significance or meaning to dreams going beyond what Freud termed the manifest content. This significance does not necessarily concern wish-fulfilment or the disguised desire for libidinous gratification; it can also relate to a purposive trend toward psychic wholeness or completion.

2.3.1 The Compensatory and Prospective Function of Dreams

Jung's rationale for entertaining the last mentioned concept in the previous section lies in his consideration of symbolism; according to his view, all psychological data must be examined and analysed from the perspective of causality and finality. This latter perspective is an outgrowth of Jung's position that human behaviour displays goal-striving, purpose and seeking; "what for?" and "to what end?" questions are as important as "how?" questions when dealing with psychic products.

It follows from this position that symbols can be viewed as having a purposive component if a fixed meaning is not attributed to them. In Jung's view the symbol is a psychic configuration or image which points beyond itself; it is a spontaneous portrayal which reveals a psychic content which is as yet dormant or potential, or which is just beginning to emerge into actualisation, i.e. it is "the best possible expression for a complex fact not yet clearly apprehended by consciousness" (Jung, 1960 f, p.75). This is in contrast to Freud's usage of the term symbol to designate psychic representations. According to Jung, Freud should have used the term 'sign' rather than symbol, for the symbol by definition points to a meaning or significance which is not yet apprehended by consciousness precisely because it has not yet entered the domain of conscious experience. The 'sign' on the other hand points to contents which have already been experienced ontogenetically, and which are unconscious because of repression. It is for this reason that the epithet 'reductive' has been applied to the causalistic interpretation of symbols, where the manifold images are traced back to their antecedent in individual experience. The finalistic perspective on the other hand must of necessity grant each symbolic dream image an intrinsic value of its own, since that to which it refers has never been known or experienced by the individual consciousness. Thus, "from the final standpoint the symbol in the dream has more the value of a parable; it does not conceal, it teaches" (Jung, 1960 g, p.32). Elsewhere he writes: "The dream is a mysterious message from our night aspect ... one does not dream, one is dreamt. We 'suffer' the dream, we are its objects" (Jung, 1938 in Jacobi, 1973, p.70). It will readily be seen that the attribution of

a fixed meaning to dream symbols must of necessity utilise a causative factor to which the image refers; an example might be the interpretation that all oblong objects are phallic symbols. Such a view utilises the notion of a 'closed system'; the open-ended' finalistic perspective allows the image to speak for itself, as it were, to reveal its significance.

When the dream is viewed as the purposive expression of the unconscious, it can readily be seen why Jung designated its chief functions as compensatory and prospective. In the first instance the dream images and sequences supply a perspective on the conscious situation which remained unperceived due to the one-sidedness of directed conscious functioning. Thus, "the unconscious" considered as relative to consciousness, "adds to the conscious situation all those elements from the previous day which remained subliminal because of repression, or because they were simply too feeble to reach consciousness. Thus compensation, in the sense of being a self-regulation of the psychic organism, must be called purposive" (Jung, 1960 g, p.41). While Jung felt that the principle of compensation explains the function of the vast majority of dreams, he does not adduce it as the only possible explanation to account for the phenomena of dream life. He admits the validity of the reductive interpretation in certain cases, but nevertheless tends to view this as form of negative compensation. An example might be an over-evaluation of itself on the part of the ego, which would result in a series of dreams which reduce the ego identity to a condition of complete dependence upon 'infantile-sexual wishes, infantile claims to power or suprapersonal, archaic elements of

thought, feeling and instinct" (Jung, 1960 g, p.44).

The rarest dreams are those which exhibit a prospective function. Jung's definition of 'prospective function' runs, "an anticipation in the unconscious of future conscious achievements, something like a preliminary exercise or sketch, or a plan roughed out in advance. Its symbolic content sometimes outlines the solution to a conflict" (1960 g, p.41). Such dreams have traditionally been termed 'prophetic' or 'oracular', and result, in Jung's view, from the combination of subliminal elements which have remained unperceived by consciousness. Jung demystifies such dreams which he writes, "It would be wrong to call them prophetic, because at bottom they are no more prophetic than a medical diagnosis, or a weather forecast. They are merely an anticipatory combination of probabilities which may coincide with the actual behaviour of things, but need not necessarily agree in every detail" (1960 g, p.41).

2.3.2 The 'Personal' Dream and the Archetypal (Transpersonal) Dream

Jung distinguished between two types of dreams, which correspond to his demarcation of the Unconscious psyche into personal and collective systems. He writes as follows: "Modern psychology treats the products of unconscious fantasy activity as self-portraits of what is going on in the unconscious, or as statements of the unconscious psyche about itself. They fall into two categories: firstly fantasies (including dreams) of a personal character, which go back unquestionably to personal experiences, things forgotten or repressed, and thus can be

completely explained by individual anamnesis. Secondly fantasies (including dreams) of an impersonal character, which cannot be reduced to experiences in the individual's past, and thus cannot be explained as something individually acquired. These fantasy pictures undoubtedly have their closest analogues in mythological types. We must therefore assume that they correspond to certain collective (and not personal) structural elements of the human psyche in general, and like the morphological elements of the human body, are inherited (Jung, 1971 e, p.153). 'Personal' dreams, which correspond to the 'little' dreams distinguished by primitives (1960 h, p.290), are "the nightly fragments of fantasy coming from the subjective and personal sphere, and their meaning is limited to the affairs of everyday"(ibid, p.290). "Such dreams are easily forgotten", states Jung, "because their validity is restricted to the day to day fluctuations of the psychic balance" (ibid, p.290). The Archetypal (Transpersonal) or 'big dreams' are "often remembered for a lifetime, and not infrequently prove to be the richest jewel in the treasure house of psychic experience" (ibid, p.290). These dreams can, in addition, be distinguished by a certain plastic form "which often has a poetic force and beauty" (ibid, p.291). In this connection Jung writes: "An infallible sign of collective images seems to be the appearance of the 'cosmic' element, i.e. the images in the dream or fantasy are connected with cosmic qualities, such as temporal and spatial infinity, enormous speed and extension of movement, 'astrological' associations, telluric, lunar and solar analogies, changes in proportion of the body, etc. The obvious occurrence of mythological and religious motifs in a dream also points to the activity of the collective unconscious. The collective element

is very often announced by peculiar symptoms, as for example by dreams where the dreamer is flying through space like a comet, or feels that he is the earth, or the sun, or a star; or else is of immense size, or is dwarfishly small; or that is dead, is in a strange place, is a stranger to himself, confused, mad, etc. (1972 b, p.160). Jung further noted that the archetypes "express themselves as affects" (1960 d, p.436), and are generally apprehended by consciousness as "strange, uncanny and at the same time fascinating" (1960 i, p.3II). They produce "weird and monstrous thoughts" (ibid, p.3II). Perry (1961) has described the archetype as being "of a different dimension from everyday experience, and usually (carrying) the feeling tone of the strange and unfamiliar" (p.94). Kluger (1975) has, on the basis of Jung's conceptualizations, characterised the archetypal dream as comprising mythological parallels, heightened affect displayed by the dreamer, a remoteness from everyday life situations and marked irrationality. He has further distinguished the categories archetypal and non-archetypal dreams in a normal population (Kluger, 1975). The archetypal (transpersonal) dream is especially characteristic of the process of individuation, which will be discussed shortly (Section 2.4).

2.3.3 Dream Analysis and Interpretation

How is the designation "archetypal" or "personal" dream arrived at? Jung distinguished two levels of interpretation, namely interpretation on the subject level, and interpretation on the object level. In the former case the dream images are interpreted as symbolic express-

ions of the dreamers psychic situation; in the latter type the dream images are interpreted concretely, i.e. they are taken as referring to objective situations and events in the dreamer's environment. In both cases the unconscious is viewed as correcting or revealing aspects of an external situation or inner psychic condition, which has remained unperceived by consciousness. The appearance of figures closely associated with the dreamer generally requires interpretation on the object level first; although such figures may refer exclusively to an external situation, they more often than not reveal an intrapsychic significance upon further interpretation, since interpersonal relations are, in Jung's view closely related to the masculine (animus) and feminine (anima) archetypes (Cf Section 2.4.2). Thus interpretation generally occurs increasingly on the subject level as analysis 'deepens' or progresses.

In common with other depth psychologists, Jung saw the chief goal of therapy as the raising of unconscious contents to consciousness, and the integration of these contents into consciousness. To facilitate this process, Jung developed the analytical method of amplification, which consists essentially in adducing parallels to the dream motifs, in the sense that analagous or identical meanings are established; "we look at all the symbols and try to construct the meaning which seems to be indicated by the totality of the attributes" (Jung, 1975, p.15). Elsewhere he writes, "in analytical psychology, we resort to amplification in the interpretation of dreams, for a dream is too slender a hint to be understood until it is enriched by the stuff of association and analogy, and thus amplified to the point of intelligibility

(1953 a, p.277). Jung observed that remarkable parallels with mythology, folklore and universal religious symbolism emerged, when this method was followed. It is generally the analyst, with his specialised knowledge of mythology, etc., who provides the parallels, which then determine the direction of the patient's associations. Jung's use of associations in dream analysis differs from Freudian 'free association' in that the associations are limited and controlled by, and directed to, the dream images concerned. The dream motif is allowed to speak for itself, as it were, which is in line with Jung's position that the manifest dream content is not a disguise or distortion, but rather a spontaneous natural portrayal of the unconscious situation in the personality.

2.4. The Process of Individuation

The concept of individuation occupies a central position in Jungian thinking. It is the concept by means of which Jung attempted to demonstrate the existence of a purposive trend in human psychic processes. The theory of archetypes, the theory of dreams and the principles of compensation and complementation are integrated and applied in the intra-psychic dynamics subsumed by Jung under the concept of individuation. "Individuation", wrote Jung, "means becoming an 'in-individual', and in so far as individuality embraces our innermost, last and incomparable uniqueness, it also implies becoming one's own self. We could, therefore, translate individuation as 'coming to selfhood', or 'self-realization'" (1972 a, p.173).

2.4.I The Concept of Psychic Growth

The purposive and prospective tendency revealed by the analysis of dreams led Jung to postulate an innate and unconscious process in the personality which tends toward a completion or 'rounding out' of the personality. This process, as has previously been discussed (Section 2.3), is discernable in fantasy activity, notably in dreams. Jung attached little importance to the analysis of individual dreams, since interpretation is inevitably made out of context. The context is supplied by the observation and analysis of a series of dreams, when, over a period of time, a purposive trend becomes apparent. Von Franz writes, "our dream life creates a meandering pattern in which individual strands or tendencies become visible then vanish, then return again. . . If one watches this meandering design over a long period of time, one can observe a sort of hidden regulating or directing tendency at work, creating a slow, imperceptible process of psychic growth - the process of individuation (1972, p.161).

While this directive tendency is an ongoing process, it can be detected more readily at what Jung termed the critical stages of life. According to Jung psychological development begins in a condition of complete unconsciousness. By this Jung means that the subject (ego) object (unconscious) dichotomy has not yet come into being. Thus the child lives in a condition of identification with the unconscious, in a state of "anarchic" or "chaotic knowing". This condition persists to a lessening degree until puberty, when instinctual physiological changes assist in the formation of the ego complex. Birth and puberty constitute

the first two critical stages. From puberty onward the differentiation and strengthening of the ego complex is of paramount adaptive importance. Life's 'zenith' as it were, is reached around the ages of thirty-five to forty, by which time outward adaptation should hopefully have been accomplished. This middle-aged transition period constitutes the third critical stage, and is the herald of 'life's afternoon', the slow 'descent' toward death, the last critical stage of life. Jung observed that these critical stages are heralded, paralleled and illustrated in the dream life of the individual; this parallelism takes the form of a marked increase in the frequency of occurrence of dreams of an archetypal nature, signifying an activation of the collective unconscious/instinctual foundations of the individual. The archetypal images of such dreams seem to function as a compensation for the crisis which consciousness is undergoing, in that they reflect the typically human nature of these stages as undergone by preceding generations. When subjected to analysis, such dreams may be a healing factor in the crisis. This ongoing compensation process occurs naturally and spontaneously, whether perceived by consciousness or not; "it is a process by which man lives out his innate human nature" (Von Franz, 1972, p.162).

Most individuals remain unconscious of this process, although they experience the critical stages of life as disturbances in the perspective of consciousness. Should these disturbances become acute, they may seek some insight into what is occurring, by attempting to come to terms with the process. By means of an analysis of the unconscious in therapy, for example, the process can be made conscious, and in

this fashion it is intensified and stimulated. When used in this narrower sense, the term individuation comes to mean a specific alternative means of personality development, a "maturation process of the personality induced by an analysis of the unconscious" (Jung, 1971 e, p.159). It is generally a neurosis, experienced as 'meaninglessness' and 'purposelessness' that touches off the way of individuation, for in Jung's view such feelings can only be eliminated as it were, by forging a new relationship between consciousness and the unconscious. For Jung a neurosis is always something positive, it is a signal that the individual should embark upon the way of individuation. He writes: "... thanks to the neurosis contrived by the unconscious (people) are shaken out of their apathy, and this in spite of their own laziness and often desperate resistance ... the few who are smitten by such a fate are really persons of the 'higher' type who, for one reason or naother, have remained too long on a primitive level, no doubt because, under the pressure of the outside world, they could no longer do justice to the claims of the inner realities" (1972 a, p.182). Neurosis thus provides an opportunity for making what is a spontaneous, natural unconscious process conscious. Neurotic symptoms thus form an integral part of the general purposive tendency of the unconscious; they are in this sense an attempt on the part of the unconscious at a 'cure'.

The critical stages in the unconscious pattern of psychic growth are, as has been discussed, identifiable by the appearance of archetypal imagery in dreams. This archetypal content tends to increase markedly as the natural process is made conscious, due to progressive experience

of 'deeper' levels of the personality. Jung writes, " ... this peculiarity (i.e. the archetypal image) is characteristic of dreams of the individuation process, where we find the mythological motifs or mythologems I have designated as archetypes (1960 h, p.291). Experience of the collective unconscious is not necessarily always beneficial for the personality, since an excessive mobility of this stratum of the psyche can result in a complete overwhelming of the ego, as in psychosis. Psychosis is a very real danger, and is often indicated in a latent form when archetypal dreams predominate outside of the critical stages of psychic growth. Individuation on the other hand consists in progressively familiarising the individual with the contents of the unconscious by means of the method of active imagination, to be discussed in detail below (Section 2.4.4).

2.4.2 The Stages of Personality Transformation and Integration

Individuation consists essentially in the reconciliation of conscious and unconscious systems of the personality by means of what Jung called the transcendent function. This process consists of training the patient's insight into the purposive tendencies of the unconscious. Its aim is the forging of an identity which embraces both the conscious and unconscious systems of the psyche, in contradistinction to the ego, which is the centre of consciousness only. This superordinate wholeness is termed the self, and is described by Jung as a "new midpoint in the personality" (1972 e, p.265). This elusive concept is more readily grasped when it is considered that in Jung's view consciousness is conceived of as arising out of the unconscious. He writes,

"Consciousness is always only a temporary state based upon an optimal physiological performance, and therefore regularly interrupted by phases of unconsciousness ... from this arises the important conclusion that the real and authentic psyche is the unconscious, whereas the ego-consciousness can be regarded only as a temporary epiphenomenon" (I954 d, p.9I). Consciousness can be viewed as the manifestation of certain unknown tendencies and potentialities of the psychoid substratum. The unconscious is "the ever present mother of consciousness" (Jung, I954 b, p.II5), precisely because in historical terms the unconscious is immeasurably older than consciousness. The ego, being the centre of consciousness, is likewise a recent phenomenon. Jung writes, "We cannot overlook the fact that, just as consciousness arises from the unconscious, the Ego-centre too crystallises out of a dark depth in which it was somehow contained in potentia" (I97I c, p.28I). The ego is therefore a prefiguration, as it were, of a potentially more all embracing identity which lies dormant, but whose synthesis is the goal of the individuation process. This is what Jung means by the self. Thus "unconscious processes stand in a compensatory relation to the conscious mind. I expressly use the word 'compensatory' and not 'contrary' because conscious and unconscious are not necessarily in opposition to one another, but complement one another to form a totality, the self ... the self is a quantity that is super-ordinate to the conscious ego. It embraces not only the conscious but also the unconscious psyche, and is therefore a personality which so to speak we also are" (Jung, I972 a, p.I77).

Synthesis of the self is unlikely to occur purely spontaneously.

Some directed activation of the unconscious is required for the assimilation of the unconscious contents into consciousness. The assimilation of these contents into consciousness is essentially a process of transformation of the personality in an integrative direction, in which consciousness is expanded and broadened by the assimilation of archetypal material. Jung writes, "As the process of coming to terms with the counterposition has a total character, nothing is excluded. Everything takes part in the discussion, even if only fragments become conscious; consciousness is continually widened through the confrontation with previously unconscious contents" (1960, p.91).

Jung and his associates have identified several major themes and images in the archetypal material characteristic of individuation. For the sake of completeness and by way of illustration of the operation of the Archetypes, a brief discussion of this subject will now be presented. These themes demarcate stages of the process; they are aspects of the individual's personality which begin to emerge, to take specific form in dreams and fantasies during the course of analysis. The first of these, termed the archetype of the Shadow, constitutes a confrontation with, and assimilation of, material repressed by the ego, i.e. the personal unconscious. Assimilation of this material into consciousness invariably entails the integration of the inferior, undifferentiated function and the underdeveloped attitude type into consciousness. If prematurely arrested, this process can remain a purely personal one, since the method of analysis is primarily reductive, constituting an exploration of the ontogenetic history

of the individual. If pursued however, the analytical process inevitably leads to the threshold of the collective unconscious, and becomes an assimilation of what Jung termed the 'collective shadow' into consciousness. This collective aspect constitutes "the universally human dark side within us, the tendency toward the dark and inferior that is inherent in every man" (Jacobi, 1968, p.II2). Such figures as Mephistopheles and Hagen in mythological history personify this archetype. The shadow is generally projected onto figures in the environment, and as analysis proceeds it begins to appear as a symbolic figure in the fantasy productions of the psyche. Jacobi (1968) notes that many analyses fail at this stage, since most individuals take refuge in their neurosis rather than 'own' the negative as an inherent part of themselves.

The second stage of the individuation process begins in response to the extreme negativity engendered by the shadow confrontation, and constitutes a confrontation with the 'soul image', termed the Anima in males and the Animus in females. Jung's designation of these archetypes corresponds to the biologically bisexual structure of the sex cells; it is the larger number of male or female genes which is responsible for the determination of the sex of the individual. Jung holds that this duality has its psychic counterpart in that the psychic representation of the smaller number of contrasexual genes remains unconscious. "Anima" and "Animus" thus appear as the 'other' to the predominantly male and female consciousness respectively, and, according to Jung, these figures were termed the 'soul' in prescientific theological writings. Of the anima, Jung writes, "This image is

fundamentally unconscious, an hereditary factor of primordial origin engraved in the living organic system in the man; an imprint or archetype of all the ancestral experiences of the female, a deposit as it were of all the impressions ever made by woman" (1954 a, p.198). The animus arises in a similar fashion in the female. Due to their unconscious nature these archetypes are projected onto the opposite sex, and are largely responsible for "passionate attraction or aversion" (ibid, p.198). Successful integration of these archetypes into consciousness by means of analysis results in a withdrawal of the projection, with the result that the individual upon whom they were projected is gradually perceived as he or she really is, and no longer as conforming to the projector's own unconscious image. The anima and animus archetypes can be conceptualized as mediators between the ego/shadow system and the 'deeper' strata of the collective unconscious. With the assimilation and integration of the unconscious, contrasexual aspect of the psyche, the inferior function is raised to consciousness. "The result", states Jacobi, "is an extraordinary enrichment of the contents of consciousness and a great broadening of our personality" (1968, p.124). In both sexes this occurs as a result of the union of the sexual duality of the psyche, and opens the way to an experience of the "innermost essence" (Jacobi, 1968, p.125) of the male or female psyche, which is "the primordial image from which it was formed" (ibid, p.125). In the male this appears as the Archetype of Spirit, the "wise old man", and in the female as the Archetype of Matter, the 'magna mater' or 'great mother' archetype. These archetypes constitute an elucidation of what it means to be masculine or feminine, they 'throw light upon the most secret recesses of the individual's own

being, upon what is most specifically masculine or feminine ... (they) elucidate the 'spiritual' principle in man and the 'material' principle in woman" (ibid, p.125-126).

With the assimilation and differentiation of the archetypes discussed, consciousness has expanded to encompass much of what had formed the unconscious. Jung writes: "The more we become conscious of ourselves through self-knowledge, and act accordingly, the more the layer of the personal unconscious that is superimposed upon the collective unconscious will be diminished. In this way there arises a consciousness which is no longer imprisoned in the petty, oversensitive personal world of the ego, but participates freely in the wider world of objective interests. This widened consciousness is no longer that touchy, egotistical bundle of personal wishes, fears, hopes and ambitions which always has to be compensated or corrected by unconscious counter-tendencies; instead it is a function of relationship to the world of objects, bringing the individual into absolute, binding and indissoluble communion with the world at large. The complications arising at this stage are no longer egotistic wish conflicts, but difficulties that concern others as much as oneself. At this stage it is fundamentally a question of collective problems which have activated the collective unconscious, because they require collective rather than personal compensation" (1972 a, p.178). Jung is referring here to the psychic conditions contingent upon the progressive realisation of the self, discussed earlier: The Archetype of the self appears in dreams and fantasies as an image of completion or wholeness, such as the mandala or quaternity, and is also often symbolized by figures such as Christ,

Buddha, etc. in religious symbolism. In the Jungian view realisation of the self does not imply or result in the cessation of problems and suffering, since these phenomena are considered to be an integral part of life; they are an expression of the essential polarity, the tension of opposites necessary for life. With the realisation of the self however, this polarity is experienced from a new midpoint, the opposites are as it were harmoniously related to one another; what this means in actuality is that "the intrapsychic is experienced as just as real, just as effective, just as psychologically true as the world of outward reality" (Jacobi, 1968, P.135). The unconscious now complements consciousness, rather than compensating for its one-sidedness. The ego still preserves its structure, but is subordinated to a superior and more all-encompassing identity. The self can never be fully known, in the sense of knowledge being exclusively conscious, it can only be experienced. On this point Jung comments: "Only those who have had this experience are in a position to attest to its reality" (1953 b, p.141). Jung's concept of the self is thus essentially a transcendental postulate, which he states is comparable to Kant's "thing in itself" (ibid, p.174), which can be predicted on the basis of the purposive trend revealed in the fantasy productions characteristic of individuation, which appear take the form of a centralising process in the personality.

2.4.3 Techniques for Inducing the Transformation of the Personality

Essentially, individuation constitutes a transformation of the personality, for, as Jacobi states " ... to deepen and broaden consciousness

by raising unconscious contents to consciousness is an 'enlightenment', a spiritual act" (1968, p.133). Individuation is of course used here in the narrower sense, to denote a specific 'activation' of the unconscious. When used in the broader sense, to denote an almost imperceptible purposive pattern of psychic growth, individuation can be seen to denote a process inherent in the psyche, which proceeds relatively slowly, at the natural regulatory pace of unconscious/conscious compensation. This natural condition of the psyche may be modified by several means, which Jung has classified as procedures which aim at what is termed "rebirth" (1971 g, p.II6). A transformation of the personality is said to be 'induced', stimulated or accelerated by the use of these techniques; in compiling his classification Jung assumes the following: "Rebirth is an affirmation that must be counted among the primordial affirmations of mankind: these primordial affirmations are based on what I call archetypes. In view of the fact that all affirmations relating to the sphere of the suprasensual are, in the last analysis, invariably determined by archetypes, it is not surprising that a concurrence of affirmations concerning rebirth can be found among the most widely differing peoples" (Jung, 1971 g, p.II6).

Jung distinguished two general categories of transformative experience, which he termed 'experience of the transcendence of life' and 'subjective transformation'. The former category includes the many ritualistic practices which are designed to initiate the individual into the "perpetual continuation of life through transformation and renewal" (Jung, 1971 g, p.II7). Thus in the ancient Eleusian mysteries

or the contemporary Catholic mass, for example, the individual experiences the transformative process as occurring outside him, and through participation in the ritual he is brought into contact with it. In certain individuals, the transformation ritual may become immediate when revealed in "spontaneous, ecstatic or visionary experience" (ibid, p.118). The second category, 'subjective transformation', is applied to experiences which originate within the individual, and includes two techniques which Jung terms "Technical transformation" and "Natural transformation". The former term is applied by Jung to the procedures of Yoga in the East and the medieval 'Exercitia Spiritualia' in the West. The transformative effects hypothesised to accompany Yogic practices are the subject of the present investigation, and these techniques will be discussed shortly (Section 3.0). As a prelude to, and contrast with this subject, a discussion of Natural transformation will be presented first.

2.4.4 Natural Transformation by means of the Technique of Active Imagination

Individuation, or natural transformation, can be facilitated by means of the technique of active imagination, developed by Jung as a means of raising unconscious contents to consciousness. This technique, which was also described by Jung as a form of 'visionary meditation' (1971 a, p.215), is characterised as "the natural analogue of the religious initiation ceremonies, which do however differ in principle from the natural process in that they forestall the natural course of development, and substitute for the spontaneous production of symbols

a deliberately selected set of symbols prescribed by tradition (Jung, 1969 b, p.523). The method attempts to make conscious the spontaneous unconscious natural course of psychic development, and thereby to stimulate or accelerate it. The method entails a form of concentration upon the spontaneously arising images of the unconscious following the induction of a reduced intensity of consciousness. Jung describes the method as follows: "Active imagination is a method introspection for observing the stream of interior images. One concentrates one's attention on some impressive but unintelligible dream image, or on a spontaneous visual impression, and observes the changes taking place in it. Meanwhile, of course, all criticism must be suspended, and the happenings observed and noted with complete objectivity" (1971 h, p.190). Patients are trained in the technique of suspending the directive outward orientation of ego-consciousness. "A deliberate weakening of consciousness" (ibid, p.190), or reduced intensity of consciousness is thus brought about, with the result that the threshold is lowered, and unconscious material streams into consciousness. Consciousness becomes diffuse rather than directed. A central component of the method is the involvement or "active participation" of the individual in the resulting fantasies. Jung writes, "... since the fantasy demands the value of a complete experience, this involves active participation, not merely an attitude that perceives and endures" (1972 c, p.239). The individual is taught to behave in the fantasy "as he would in real life" (ibid, p.239). Jung warns against haphazard application of this method of access to the unconscious, since it implies the danger of consciousness being overwhelmed by the unconscious material, particularly if the energy change in the unconscious

is high. With the elimination of the critical faculty a "long and often very dramatic series of fantasies ensues" (Jung, 1971 h, p.190). Jung comments, "these images differ from dreams only by reason of their better form, which comes from the fact that the contents are perceived, not by a dreaming, but by a waking consciousness (ibid, p.190). These images are then enriched, elaborated and extended by means of the parallels and associations adduced by the method of amplification.

Systematic and extended practice of active imagination was observed by Jung to have a definite and predictable effect on the dream life of the individual. According to Jung, "the existence of unrealised, unconscious fantasies increases the frequency and intensity of dreams" (1971 d, p.49), and when these fantasies are made conscious by means of the method of active imagination, Jung noted that "dreams change their character and become weaker and less frequent" (ibid, p.49). Elsewhere he writes, "But often in the later stages of analysis, the objectivisation of the images replaces the dreams. The images anticipate the dreams, and so the dream material begins to peter out.* The unconscious becomes deflated in so far as the conscious mind relates to it. Then you get all the material in a creative form, and this has great advantages over the dream material" (Jung, 1968, p.194). In line with the theory of a purposive trend in the unconscious, Jung concluded that "dreams contain fantasies which want to become conscious" (1971 d, p.49). In active imagination, he continues, "the resultant

* Emphasis added

This, in the West, is what one calls the unconscious" (Jung, 1969 c, p.535). It is for this reason that Yogic techniques can be conceptualized as aiming at freeing the conscious mind from the unconscious by controlling or inhibiting the action of all mental phenomena. Jung corroborates this when he writes, "Yoga technique applies itself exclusively to the conscious mind and will" (ibid, p.535). This procedure constitutes the exact reverse of the techniques of active imagination; when examined from the perspective of Jung's psychology, Yogic practices comprise a system of techniques for strengthening consciousness by isolating it from a normative and relatively unconscious unity, whereas active imagination induces a deliberate weakening of consciousness. Jung felt, therefore, that the application of Yogic techniques to the Western psyche is unwise. He writes: "I do not apply Yoga methods in principle, because in the West nothing ought to be forced upon the unconscious. Usually consciousness is characterised by an intensity and narrowness that have a cramping effect, and this ought not to be emphasised still further. On the contrary everything must be done to help the unconscious reach the conscious mind, and to free it from its rigidity" (ibid, p.537). Elsewhere he writes: "I owe my best insights ... to the circumstance that I have always done just the opposite of what the rules of Yoga prescribe" (ibid, p.534).

Jung nevertheless recognised the final goal of Yoga and other Eastern 'ways of liberation' as being identical to that of natural transformation or individuation as facilitated by active imagination; this goal is the synthesis of the self through a reconciliation and

harmonising of the opposites of conscious and unconscious systems of the psyche. In terms of symbols, Jung's Self is, "a figure comparable to Purusha, Atman and the Mystic Buddha" (Jung, 1971 g, p.142). The approach to this goal must of necessity differ in Western and Eastern cultures, since the given psychic conditions are different at the outset; this position will become clearer in the presentation of the doctrines and techniques of Yoga which follow.

3.0 MEDITATIONAL PRACTICES AS FORMULATED IN THE DOCTRINES OF YOGA

Before a detailed discussion of the techniques and methods of Yogic meditation can be presented, the Yogic system must be placed within the context of meditational practices in general. "Meditation" is a term which has a wide variety of meanings, ranging from "close and continued thought", "to intend, to plan, to muse, to reflect" (Webster, 1936, p.621), to connoting a form of mystical practice which aims at effecting what has been variously termed "a union with the Divine", transcendent 'knowledge of the soul', union with the inner self, etc. It has also been advocated as a means of attaining personal day to day happiness, and as a means of curing physical ailments and of maintaining physical health. In its more esoteric forms, however, the practice is central to the experiential realisation of most, if not all, religious systems of thought, and provides the chief means of 'practical' training for the many professional and lay adherents of the major world religions. In recent years there has been an upsurge of Western interest in Eastern meditational practices, due in part to the fact that 'meditation' has probably found its most systematic and evolved formulation in the Yogic and Buddhist systems. Of late, the effects claimed to be contingent upon systematic meditational practice have become the subject of experimental investigation by Western Psychologists, chiefly in the form of physiological studies of practitioners of the Yoga-derived technique of Transcendental Meditation (T.M.). These studies will be reviewed in a later section (4.2). There is however still little scientific consensus as to what "meditation" actually is, since the practice flourishes in numerous

outward forms, which do however seem to reveal a concurrence in aims and objectives under closer examination.

According to Naranjo (1971) meditation "is concerned with the development of a presence, a modality of being which may be expressed or developed in whatever situation the individual may become involved" (p.8). The achievement of this 'modality of being' would appear to involve what Maupin (1965) has characterised as "a systematic exploration of deeply unconscious, prelogical, archetypal experience" (p.189). Maupin is here in general agreement with Jung. A central element in all procedures which aim to facilitate the above process is the progressive training of the individual in a focusing of attention or "dwelling upon" (Naranjo, 1971, p.10) something. This training attempts to achieve a psychic condition where subjective involvement in the ever changing phenomena of conscious mental experience is suspended by restricting the source of stimulation to one unchanging element or aspect of that ongoing experience. This focusing of attention upon an object results in intimate moment to moment knowledge of that object on the part of the subject, and it is this 'deepening' of awareness which distinguishes a meditative state of consciousness from normal waking consciousness, with its intermittent awareness of the present moment. On this point Naranjo suggests that "complete giving of our attention to something reaches a point where we are, so to say, pure receptivity filled by the object, not a screen or a mind where the object is reflected, not an "I" that perceives, but a nothingness filled by the contemplation; only the object exists, empathetically perceived as it were from within" (1971, p.28).

Naranjo (1971) has classified meditational practices into three broad categories. These categories tend to overlap to a large extent, but do prove useful in ordering the diverse forms that meditation takes in the traditional literature on the subject. The first, termed the directive approach, utilizes the technique of concentration upon externally given meaningful symbols or symbolic objects, until absorption and union with the symbol occurs. In the author's words "the individual attempts to interiorize an externally given form, or projects his experience onto it, until his subjectivity is absorbed by the object" (1971, p.17). The second form termed the non-directive approach, involves a method of introspective attention upon the spontaneously arising contents of the mind. In the author's words once again, "the individual seeks attunement to an inner form or a formless depth out of which a personal form emerges - in imagery, thoughts, gestures, feelings, or above all, as an attitude toward the situation at the moment" (ibid, p.17). It will readily be seen that the Jungian method of active imagination would fall somewhere in this category. The third type, termed the purely negative approach, underlies to a large extent the methods utilized in the preceding approaches. It involves the development of an attitude of discrimination toward all phenomena, in order to eliminate, in a successive fashion, the attachment of the subject to his own experience. It entails an 'emptying' of the mind of all known experiences. Naranjo describes the method as follows: (it is) "a pursuit of formlessness; the meditator seeks to relinquish expectations, preconceptions, predetermined courses of action, so as to make himself receptive to the promptings of his unimpaired spontaneity" (1971, p.17). Elements of all three of the above approaches

interfuse in the Yogic system, but Yogic techniques, as outlined by the 6th Century Indian philosopher Patanjali, seem to be predominantly directive.

3.1 The Aims and Objectives of Yogic Meditation

Yogic Philosophy, as expounded by Patanjali, postulates an underlying and interpenetrating unity of all phenomena. According to Indian thought, the universe is of the nature of a single absolute reality, symbolised as Brahman. This reality cannot be defined or expressed conceptually, but is said to be experientable in "superconscious" meditational states of awareness as the Self, expressed with a religious connotation as the "Godhead", Atman or Purusha immanent in the constitution of man. From a psychological perspective this reality is said to be experientable as pure consciousness, i.e. "that" which remains after all attributes or phenomenal characteristics ascribed to 'it' have been removed. The forms and patterns of the phenomenal or material world (prakruti) i.e. those factors in experience which give reality the quality of multiplicity and separateness are held to be illusory (Maya) from the perspective of the 'superconscious' states of awareness contingent upon the experience of the Self.

Ignorance of the nature of Reality is said to result from the mistaken identification of Consciousness with the 'mind' (citta), defined as "the universal medium through which consciousness functions on all planes of the manifested universe" (Taimni, 1961, p.7); the mind is conceptualized as being the product of the interaction between consciousness and matter, and is thus the focal point, as it were, where

change occurs. When identified with the mind, consciousness is therefore experienced as subject to its vicissitudes or modifications (vrtti), which are held to be ultimately painful (klesa), because attachment to phenomena is said to inhibit the attainment of self-realisation. The overall aim of Yoga is therefore to free consciousness from the action of the mind.

Mind is conceptualised as being "inert", in the sense that it is not inherently intelligent and conscious; like the physical body, it is thought to function only as the medium by means of which consciousness becomes aware of the phenomenal world. This position is reminiscent of Jung, who wrote, "Far too little in theory, and almost never in practice, do we remember that consciousness has no direct relation to any material objects. We perceive nothing but images, transmitted to us by a complicated nervous apparatus ... what appears to us as immediate reality consists of carefully processed images ... the psychic alone has immediate reality" (1960 a, p.384). Patanjali conceives of the 'mind' as comprising three fundamental systems, processes or faculties: firstly 'manas', defined as that mental system which receives and records impressions resulting from phenomenal stimuli impinging upon the senses; secondly 'buddhi' defined as the means by which these impressions are classified and reacted to, and thirdly 'ahamkar', defined as the ego sense, which claims ownership for the experiences resulting from the activity of the other two systems, and thus results in a sense of individual conscious identity. The ego sense does not constitute the "real" identity, since it is by definition a mental system. The objective of Yogic meditational

practices is therefore to eliminate the ego sense, which is held to result in the cessation of the attachment of consciousness to the mental modifications, and hence the elimination of suffering.

The elimination of the ego sense and the resulting attainment of "self-knowledge" is characterised as an arduous task by Patanjali, which can only be achieved by means of meditation. In the Indian view, Self-realisation can only be attained by the suppression or controlling of all mental action, and it is for this reason that Patanjali defines Yoga as "the inhibition of the modifications of the mind" (Taimni, 1961, p.6). As pointed out in a previous section (2.4.4) consciousness is so immersed in the actions of the mind that for the Indian it requires an enormous effort of will to effect a separation of subject and object. Western man, on the other hand, needs to inhibit the action of the will in order to reintegrate the conscious and unconscious components of the Self (Section 2.4.4). Patanjali's commentator Taimni offers the following simile to the prospective student of Yoga: "Let him imagine a lighted electric bulb suspended in a tankful of limpid water. If the water is churned violently by some mechanical contrivance, it will make all kinds of patterns in three dimensions around the bulb, these patterns being illuminated by the light from the bulb, and changing from moment to moment. The bulb itself will disappear from view, all the light emanating from it being assimilated with or lost in the surrounding water. Now let him imagine the churning of the water slowed down until it becomes perfectly still. As the three dimensional patterns begin to subside, gradually the electric bulb emerges into view, and when the water is

quite at rest, the bulb alone is seen" (1961, p.II). The exercises of Yogic meditation comprise a set of procedures for stilling or calming mental activity until the "true" nature of consciousness is revealed.

3.2 The '8 limbs' of Yoga

According to Patanjali, the mind of the average man is said to be constantly and completely 'outward' turned, in the sense of being immersed in the external world, preoccupied and even fixated upon the procession of images passing continually in the field of consciousness. This situation is termed a 'distracted' condition of the mind (viksepa), characterised as an inherently 'centrifugal' tendency. Meditation attempts, over a period of time, to reverse this centrifugal tendency by replacing it with a centripetal tendency "so strong that it requires a definite effort of will to keep the mind directed outwards" (Taimmi, 1961, p.75). This process entails the continual focusing of attention upon the hypothesised inner centre of consciousness which is generally portrayed by a unitive symbol, such as the sun, the cross, a quaternity, a mandala, a yantra, a mantra, etc. These symbols utilised by the directive approaches have the distinguishing characteristic of "centrality" (Naranjo, 1971), and serve to focus awareness upon the 'inner' rather than the 'outer' world.

Patanjali has classified the 'steps' or stages of Yoga in an eight-fold system. Meditation, in the technical sense of adopting a given posture and concentrating upon a unitive symbolic object or image, is

not embarked upon immediately, a thorough preparation being necessary. In Naranjo's sense of meditation being the development of a 'modality of being' however, the preparation must also be considered an integral part of meditation, since in a general sense 'meditation' can be conceptualised as the development and cultivation of an attitude toward experience. The first two limbs (angas) of Yoga, termed 'Yama' and 'Niyama' are designed to provide an adequate moral foundation for the Yogic training. Morality is used in the sense of eliminating those mental disturbances caused by uncontrolled emotions and desires, chiefly sexuality and aggression. The presence or absence of sexual and aggressive themes in dreams is said to provide an index of the 'moral' development of the practitioner (Sivananda, 1967). The moral code of sexual continence and non-violence (ahimsā) is practiced to varying degrees by all aspirants. The postures (āsanas) and the breathing training procedures (pranāyāma) comprise the next two limbs, and are designed to eliminate disturbances arising from the physical body. The fifth limb, designated "pratyāhāra", entails the detachment of the sense organs from the mind, resulting in the exclusion of the external world and the impressions which it produces in the mind. Taimmi classifies ongoing mental activity when no particular mental effort is being made into three categories:

- (1) Ever changing impressions produced by the outer world through the 'vibrations' impinging on the sense organs.
- (2) Memories of past experiences 'floating' in the mind.
- (3) Mental images connected with the future.

Categories 2 and 3 are of course wholly mental, in the sense of being independent of any immediate objective activity outside of the mind.

The practice of Pratyāhāra aims to eliminate category I completely, thereby leaving categories 2 and 3 open to the practice of the sixth and seventh limbs, Dhāraṇā and Dhyāna. With the accomplishment of pratyāhāra, the external yoga (Bahiranga) is said to be completed, and the internal Yoga (Antaranga) begins with the mind in a condition of complete isolation from the external world. This condition, as will be seen shortly, bears a marked resemblance to the mental conditions characteristic of sleep.

Meditation in the technical sense of the term discussed above really begins with Dhāraṇā or concentration, defined as "the confining of the mind within a limited mental area" (Taimmi, 1961, p.275). An object (or image) of concentration is selected, and the mind is limited in its movement to the aspects and attributes of that object. Some mental movement is therefore possible, in the consideration of the components of the object, but concentration is nevertheless maintained. The object (or image) is, as mentioned earlier, selected for its powerful symbolically unitive associations, and "may involve a process of reasoning consisting of many steps connected logically with each other and forming an integrated whole" (ibid, p.277). When the mind wanders from the object, i.e. when an irrelevant object or its aspects intrude into awareness attention is immediately brought back to the concentration object. When unbroken attention can be maintained, the seventh limb, Dhyāna or contemplation ("one-pointedness") is attained. The mind comes to know the object much more intimately than in ordinary thinking, and the aim is now to experience the "true" reality of the object, that is the underlying and inter-

penetrating unity, symbolized as the "Atman", hypothesised to be present in all phenomena. That which prevents the complete fusion or 'yoga' of subject and object is the very subjectivity of the mind, characterised as "the residual consciousness of its own action or role in the process of Dhyāna" (ibid, p.278). With the elimination of this residue the only object which can fill the mind is the object of meditation itself. When this occurs, the perceiver (Atman/Self) the object of perception, and perception itself become fused in one state of awareness, termed Samādhi, the eighth and final 'limb' of Patanjali's system.

Several conditions of Samādhi have been distinguished by Patanjali, but before these are presented, the point raised earlier concerning the relationship between sleep and the '8 limbs' of Yoga must be elaborated. According to Eliade (1969) the rationale for the practice of pranāyama is the training of the Yogi in slowing the respiratory cycle until it approximates to that of sleep. Yoga theory postulates a connection between respiration and consciousness in its respective functions (Bhoja, Yoga Sutras I, 34), and in Pranāyama therefore the practitioner is trained in the technique of prolonging the interval between inhalation and exhalation for as long as possible. At the same time, i.e. during the practice of pratyāhāra, the practitioner is trained to 'disconnect' the senses as it were, without breaking the continuity of consciousness; he does not therefore fall asleep, as would be expected given the curtailment of sensory activity and a drastically slowed respiratory cycle, but is rather able to enter and leave the sleep states whilst remaining fully lucid and aware of the transition. The mental activity characteristic of what is concept-

ualised as the unconscious by Western Psychologists is thus said to be directly accessible to the practitioner of Yoga who has mastered these techniques (Eliade, 1969). It is for this reason that the meditational practices of Yoga have traditionally been associated with sleep, as is evident from Eliade's (1969) observation that the mantric syllable AUM is said to represent four states of consciousness, namely diurnal consciousness (A); the dream state (U) and dreamless sleep (M). The sound OM represents the final synthesis signified by the symbol, namely 'transcendental' consciousness, which unifies the other states and corresponds to samadhi.

It is contended that once a certain mastery of Yogic meditational techniques is attained, the individual ceases to dream (Muktananda, 1976, pp.75-76), and that as involvement with and absorption in Yogic meditation increases, dreams become less frequent (ibid, pp.75-76). The latter contention accords with Jung's observation that systematic practice of active imagination results in a decreased frequency of dreams (Section 2.4.4). Jung also observed that dreams become 'weaker' during the practice of active imagination. An apparent contradiction is evident, in that Jung noted that archetypal material tends to increase during individuation, as the psychic material of which the personal unconscious is constituted is made conscious. This deflation of the personal system of psyche as it were, 'exposes' the collective or impersonal psychic system, which is manifested as the typical archetypal themes and images characteristic of individuation (Section 2.4.2, p.36). It will be recalled that Jung conceived of the collective unconscious as comprising in part an area which can never be made

conscious. This "psychoid" substratum presumably continues to construct dreams which would be wholly archetypal in nature. If this conceptualization is correct, then the achievement of the final goal of individuation, namely the realization of the self, would presumably not imply the cessation of dream activity; this conclusion is corroborated by Jung's own conceptualization of the Self as constituting a new midpoint in the personality, where conscious and unconscious areas of the psyche complement one another (Section 2.4.2). Neither system is conceptualized as surrendering its intrinsic nature, and Jung, therefore, does not admit the theoretical possibility of the complete depotentiation of the unconscious, as would be possible if the origin of the unconscious was ascribed solely to the repression of ontogenetically incompatible experience, as in the Freudian system. It follows therefore that with the progressive integration of unrealized unconscious material into consciousness, that part of the collective unconscious which can never be made conscious might continue to portray the situation in the personality in fantasy productions. It is possible that these images would finally assume a configuration denoting the completion or 'rounding out' of the personality, in terms of symbols which are unitive or have the property of 'centrality', such as the mandala, quaternity, etc.

3.3 Advanced Meditational Procedures in the Yogic System

With the accomplishment of 'Samādhi', the world of 'transcendent reality' is said to be accessible to the meditator. Patanjali's commentator defines Samādhi as "a process of diving into the deeper

layers of one's consciousness which functions through different grades of the mind" (Taimmi, 1961, p.32). The involution of consciousness through the various levels of mind is said to impose upon it increasing limitations, in the sense of a focusing and restriction of awareness, made complete in normal waking consciousness with its ego sense. The opposite evolution of consciousness facilitated by the 8 limbs of Yoga is held to result in a progressive de-restriction of consciousness until "perfect freedom" (Taimmi, 1961, p.33) is attained. It is this latter process which comes into full operation during the stages of samādhi.

The procedures comprising this advanced level of meditational practice facilitate the withdrawal of consciousness toward its 'centre' by means of its passage through what are conceptualized as alternating states of form and formlessness. 'Inner' reality, when in a condition of union with a meditative object, is said to consist of a number of levels or 'planes' of form separated by intervening 'voids' which have to be transcended in order for full self-realisation to be attained. The withdrawal of consciousness through a level of form (Samprajñāta Samādhi) is always followed by a period of relative quiescence (Asamprajñāta Samādhi), which is, as it were, a preparation for entry into the next level of form. This cyclical process is classified into two types, Sabija Samādhi and Nirbija Samādhi. In the former case, contemplation (samyama) of the object or symbol, termed the "seed" (bija) in Yogic terminology, is the primary means of maintaining union with the object. It is thus known as "meditation with seed". In nirbija samādhi ("meditation without seed"), the object of contemplation

is finally discarded, since the reflecting power of the symbol is no longer necessary. Before this final point is reached, the essential nature of the contemplation object must be experienced by means of a "splitting (of) the seed", or a penetration of the object by means of the successive cyclical stages outlined earlier. In Taimmi's words "each successive stage of samadhi reveals to our consciousness a different and deeper layer of the reality of the object, and by continuing the process of samyama (contemplation) through the successive stages, we ultimately arrive at the innermost reality of the object ... samyama is really a means of passing from the outer expression to the reality within whatever may be the nature of the relationship between the outer expression and the inner reality. Since the reality underlying all objects is contained in the Divine Mind and the object of samyama in Sabija Samadhi is to know this reality, it follows that what the Yogi does in Samyama is to sink into his own consciousness until he reaches the level of Divine Mind in which the reality of the object is to be found. The 'seed' on which Samyama is performed merely determines the line along which consciousness has to sink" (1961, pp.103-105). This process is rendered more comprehensible when the nature of objects or 'seeds' is examined more closely.

According to Yogic philosophy, every phenomenon has two basic forms, the outward form with which we are familiar, and an 'inner' form termed an archetype, of which we are unaware. The archetype is conceptualized as a corresponding reality at the level of 'Divine Mind'. The aim of Sabija Samadhi is therefore direct knowledge of, or fusion with the archetypal form of the meditation object, which gives consciousness access as it were to the level of 'Divine Mind'. At this extremely

"subtle" (Taimmi, 1961, p.107) level, consciousness is but a step away from the final goal, that of formless pure consciousness. It is the perception of the Archetypal properties of the 'seed' that fill consciousness, and with the successful practice of samyama on these properties, the final level of form is transcended in Nirbija Samadhi, and pure, formless consciousness is said to be experienced. "The light which was up to this stage illuminating other objects now illuminates Itself, for it has withdrawn beyond the realm of these objects. The seer is now established in his own Self" (Taimmi, 1961, P.108).

Some comment from the Jungian perspective is in order at this point. The concept of a 'Divine Mind' composed of archetypes can be viewed as a metaphysical parallel to Jung's psychological postulate of a Collective Unconscious, structured likewise according to Archetypes. This assertion is, in fact, made with reference to the Dharma Kaya of the Tibetan Buddhist system. "The collective unconscious (is) the matrix of everything. It is the womb of everything, even of the Dharma-Kaya. It is the Dharma Kaya itself" (Kirsch, 1960, p.xxxv).

With regard to this assertion, Jung is of the opinion that "metaphysical statements are statements of the psyche, and are therefore psychological" (Jung, 1960, p.xxxvii), and with the support of this position, a case can be made for considering metaphysical concepts such as the Buddhist "Dharma Kaya" or the Yogic "Divine Mind" as equivalent from the perspective of psychological analysis, i.e. that they refer to a transpersonal substratum of the personality, the

Collective unconscious. The practitioner of Patanjali's system attempts to penetrate this substratum and become fully conscious of its dynamics and nature.

3.4 The Concept of the 'Subconscious' in Yoga

"Long before Psychoanalysis," writes Eliade, "Yoga showed the importance of the role played by the subconscious" (1969, p.45). The concept is allocated a central position in the Yogic system, since it is viewed as the chief obstacle to be overcome by means of meditation. It will be recalled that the aim of Yoga is the inhibition of mental modifications (vrttis), which are, in accordance with the Yogic value system, viewed as ultimately painful (klesa). These mental modifications, together with their manifestations in the physical organs, are conceptualized as the product of subliminal "latencies" (Eliade, 1969, p.42), termed "vāsanās", or in Patanjali's words "specific subconscious sensations". It is contended that an immense reservoir of these latencies exists in the subconscious in a potential condition; the origin of the latencies is ascribed to memory. According to Yogic theory memory is both personal and impersonal. The impersonal sphere arises as a result of both cultural transmission of language, customs, civilisation, etc., and as a result of what is called "karmic transmigration" (Eliade, 1969, p.42). Personal memory arises from the stored experiences of one lifetime, which is, in the Yogic view, patterned karmically after the experiences of previous lifetimes. The basis of all human behaviour is therefore ascribed to the action of subconscious latencies, or, in other words, predispositions towards

specific modes of perception and behaviour which, as it were, perpetuate themselves in an endless cycle of action and reaction, unless the process is arrested through the practice of meditation. Eliade writes, "the *vāsanās* constitute an immense obstacle - for they are in the highest degree elusive, difficult to control and master. By the very fact that their mode of being is that of 'potentiality', their own dynamism forces the *vāsanās* to manifest, to actualise themselves under the form of acts of consciousness ... this is because the latencies, as if a strange impulse drove them to self-extinction, want to emerge into the light, want by actualising themselves to become states of consciousness. The resistance that the subconscious opposes to every act of renunciation and asceticism, to every act that could result in emancipation of the self, is, as it were, the token of the fear that the subconscious feels at the mere idea that the mass of as yet unmanifested latencies could fail in their destiny, could be destroyed, before having time to manifest and actualise themselves. This thirst for actualisation on the part of the *vāsanās* is nevertheless interpenetrated by the thirst for extinction, for 'repose' that occurs at all levels of the cosmos ... every *vāsanā* manifested as a state of consciousness perishes as such; certainly other *vāsanās* will replace it ... the intensity of the biomenal circuit arises precisely from the fact that 'latencies' and 'forms' always tend to cancel themselves (Eliade, 1969, p.45).

The continual actualisation of the latencies is said to result in the formation of impressions which accumulate in the 'subconscious'. These impressions are termed '*samskāras*', which is a term used also

to designate the basic mechanism of activation of the subconscious, in that the impressions, once initially formed, continually influence the pattern of actualisation of the *vāsanās*, and are in turn elaborated or 'built up' as it were, by this ongoing actualisation process. The *samskāras* are said to result from the deposits of past life experiences, including pre-human evolutionary stages (Eliade, 1969). Yoga theory also characterises the subconscious impressions as 'seeds' which may continue to 'germinate' if not 'burned' in *Sabija Samadhi* (meditation 'with seed').

Some interesting parallels emerge when the above conceptualization is set against Jung's theory of the nature of the psyche. Both seem to agree on a 'potential' factor which actualises itself in consciousness, and they are in rough accord on the concept of "subconscious" or, in Jung's terms, unconscious factors or structures which influence the pattern of actualisation. The concept of the 'samskara' and Jung's concepts of the 'complex' and the archetypal image can be seen as roughly equivalent attempts to account for the patterning of conscious behaviour by unconscious or 'subconscious' factors. Both systems are in agreement that the unconscious/subconscious area of man's psychic constitution must be 'overcome' or depotentiated in order for individuation or 'self-realization' to proceed. Jung's solution is to 'deflate' the unconscious by facilitating or accelerating the natural rate of actualisation of the unconscious factors in consciousness by means of the method of active imagination, whereas Yoga techniques, in accordance with a consciousness already overburdened by the actualisation of the subconscious, attempt to 'burn' or overcome the

action of the unconscious by a definite act of will, i.e. by controlling or inhibiting the actualisation process through direct experience (obtained by means of meditation) of the basis or 'root cause' of the actualisation process. Access to the 'root cause' must of necessity entail experience of the realms of "personal" and "impersonal" memory; these concepts might be viewed as metaphysical parallels to Jung's psychological concepts of a 'personal' and an 'impersonal' or collective unconscious, and if this is indeed the case, then the two systems concur further in their outline of a progression of experience from personal psychic material to impersonal or collective psychic material during the individuation or self-realisation process. This contention can be supported by Jung's (1969 b) observation that concepts such as the "transmigration of souls" or "reincarnation" are portrayals, couched in mythical terminology, of the spontaneous process of rebirth which occurs during individuation. This process, as has been discussed, has its origin in an activation of the collective unconscious.

3.5 The Relationship of Yogic Meditation to other Meditational Techniques

3.5.1 The Utilisation of Visualisation Techniques in Yogic Meditation

The selection of a meditation object is governed largely by the tradition of which the meditation exercise forms a part. In Zen, for example, the individual is taught to concentrate upon his breathing and later upon a koan, or a-logical paradoxical proposition. Sufism utilises the concentration upon complex repetitive dance movements (Ornstein,

1972, p.116). Yoga utilises a number of objects, a common one being the mantra, which is a word or phrase said to be of special symbolic significance, of a repetitive nature. Classical Yoga and its allied traditions also utilise visualisation techniques. In Kriya Yoga, Tibetan Yoga, and the Tantric tradition, for example, the individual is trained in the technique of visualising symbols by means of concentration. The symbol may be composed of colours, shapes, deities or abstract geometric forms such as the Yantra, or, as mentioned earlier, the mandala. "The state of visualisation", comments one author, "probably approaches that of the dream state, where we see things as vividly as in real life, the difference being that the adept retains consciousness and control. He continues, " ... one form of Tibetan Yoga trains the adept to enter, control and leave dreams at will. To the meditator the deity can become so real that he feels he can touch it, and it can sometimes take on a remarkable life of its own, reflecting the uncontrolled play of unconscious forces" (Bernbaum, 1974, p.101). With reference to the Tibetan visionary methods, Evans-Wentz comments, "Although mind-created by the Yogin, the visualised images of spiritual beings ... are not to be regarded by him with indifference. If he merely thinks to himself 'I am creating with my mind', no more than intellectual progress is made. The Yogin must understand that his practices are not simply mental. He should regard them with veneration and devotion, looking upon the Devatas (i.e. the visualised deities) as real, holy and divine. They are nonetheless so because mind-produced, for the mind ultimately is that, and its ideas forms of That. The devatas so produced are not however, to be looked upon as by the unenlightened, that is as having objective,

individualised existence. They are rather to be thought of as an artist regards the product of his mind and brush or pencil, with adoration and fondness" (1974, p.44).

The above comments are reminiscent of Jung's outline of the technique of active imagination. Concerning the visualisation process, he writes, "We ought never to take a phantasy experience as something absolute, and therefore to be taken or understood literally. It is an expression, an appearance standing for something unknown but real ... something works behind the veil of fantastic images ... it is something real, and for this reason its vital manifestations must be taken seriously. But first the tendency to concretization must be overcome" (1972, pp.250-251). Jung further recognised that visualisation techniques are appropriate for 'visual' types, whilst 'audio-verbal' types should concentrate upon "inner words, perhaps mere fragments of apparently meaningless sentences to begin with ... " (1960, p.83). He also recognised that the unconscious can be expressed through bodily movements and working with plastic materials, i.e. in sculpture, painting, etc., thus corroborating from a psychological viewpoint the different meditation techniques of the East.

3.5.2 Transcendental Meditation

Writers on the Yoga-derived technique of Transcendental Meditation (TM) conceptualize the technique as a procedure for "unstressing" the nervous system (Mahesh, 1966; Goleman, 1971; Kanellakos and Lukas, 1973). The concept of a "psychophysiological" principle is adduced,

which states that "Every change in the physiological state is accompanied by an appropriate change in the mental-emotional state, and conversely every change in the mental-emotional state, conscious or unconscious, is accompanied by an appropriate change in the physiological state" (Green et al., 1970). Meditation is said to facilitate the discharge of tensions, stresses, fatigue, emotional strain etc., in accordance with this principle. Unstressing therefore, "takes the form during meditation of completely involuntary, unintended and spontaneous muscular-skeletal movements and proprioceptive sensations: momentary or repeated twitches, spasms, gasps, tingling, tics, jerking, swaying, pains, shaking, aches, internal pressures, headaches, weeping, laughter, etc." (Goleman, 1971, p.10). These phenomena are interpreted as the physiological manifestations of mental-emotional events which, over the course of the individual's lifetime, have shaped the organism and which are being discharged during meditation. The regular practice of meditation is therefore said to induce physiological and biochemical changes and to institute a new physiological rhythm, due to the discharge of unconscious material on the level of physiology. This conceptualisation accords with that of Patanjali, in the sense that the practitioner of the first two "limbs" of his system (Section 3.2), is set the task of inhibiting the disturbances which arise from the physiological organism, so as to facilitate the later concentrative procedures. Sexuality and aggression are seen as the chief disturbances which must be inhibited, and it is possible that meditation at this level attempts to inhibit the influence of these factors by discharging them during the process of meditation itself.

The "unstressing" concept accords with Jung's view that the existence of unrealised unconscious fantasies increases the frequency of occurrence and intensity of dreams, and that if these fantasies are discharged or, in his terms "made conscious", then dreams tend to diminish or "peter out". This concept has already been discussed at some length (Section 2.4.4).

4.0 EXPERIMENTAL RESEARCH ON MEDITATION AND DREAMING

4.1 Research Findings on the Psychological Correlates of Meditation

When compared with the proliferation of research on the physiological correlates of meditational practices, studies relating directly to the psychological characteristics and correlates of meditation are relatively few. No research has as yet attempted to relate meditational practices to mentation characteristic of states of sleep experimentally. The present investigation is therefore without direct precedent in terms of published experimental findings, although some theoretical work has appeared, which hypothesises a relationship between meditation (TM) and sleep states in terms of testable hypotheses (Goleman, 1971). However, several studies have attempted to establish what meditation actually constitutes in terms of the 'mental' characteristics of the practice and its effects on the psyche and behavior. A selection of such studies relevant to the present investigation is present below.

Deikman (1963) hypothesised that mystical experience is facilitated by contemplative meditation, that training in this discipline results in the building of intrapsychic barriers against distracting stimuli, and that the occurrence of mystical phenomena can be ascribed to "a partial deautomatization of the psychic structures that organise and interpret perceptual stimuli" (1963, p.203). Subjects were instructed to concentrate on a blue vase in accordance with traditional meditational procedures. Following each session, a short interview designed

to elicit a description of what had occurred, was conducted. All subjects reported: (1) perceptual distortions relating to the vase, (2) the development of a personal attachment to the vase, (3) a modification of the state of consciousness, and (4) increased ability to keep out distracting stimuli. Individual responses included (1) merging with and perceptual internalization of the meditation object, (2) radiation with heat and sexual stimulation, (3) de-differentiation of the landscape, and (4) transfiguration of the environment. The author concludes that meditation induces perceptual changes and alterations in ego boundaries which he interprets as signifying deautomatization, a process whereby conditioned stereotyped patterns of perception and cognition are broken down and a fresh perception of the world attained. Deikman comments that "deautomatization is not a regression but rather an undoing of the pattern in order to permit a new and perhaps more advanced experience" (1963, p.222).

Maupin (1965) hypothesized that attentional factors, tolerance for unrealistic experience, and capacity for adaptive regression would be central to the meditational process. Twenty-eight male college students were instructed in a 45 minute Zen breathing exercise; on the basis of a categorization of subject reports of the experience, high response, moderate response and low response groups were distinguished. No significant relationship emerged between response to meditation and measures of receptive attention, active concentration and fluctuations in active concentration and breadth of attentional scanning. The Rorschach measure of tolerance for unrealistic experience

was positively correlated with meditation at a statistically significant level. The Rorschach measure of amount and degree of primary process thinking and visual imagery during free association was used to test capacity for adaptive regression. Both measures were positively correlated at significant levels. Maupin, in accordance with his psychoanalytic orientation, concludes that Satori "seems to fit into the class of psychologically adaptive regressions described in the psychoanalytic literature" (1965, p.200).

Akishige (1968) reported results of a study performed with long-time Zen meditators, in which he found no difference between the meditators self-estimate of ideal self and actual self, thereby suggesting that Zen meditation facilitates self-perception, in the sense that it becomes more realistic. A consequence of this finding is that communication with others should improve. Support for this possibility is provided by the results of a study conducted by Lesh (1970), who trained counselling students in Zazen and found that their performance on a measure of empathy was significantly better than that of a group of non-meditators following the Zen training. The meditation group also showed significantly more openness to experience following their Zen-training. Lesh concluded that Zen meditation "appears to be an effective means of assisting people in self-actualisation" (1970, p.73). Seeman et al. (1972), using practitioners of Transcendental Meditation (TM) provided evidence which supports Lesh's (1970) findings. They administered the Personal Orientation Inventory to an experimental group of 8 males and 7 females two weeks prior to the commencement of their training in TM. A control group (10 males and 10 females)

received the inventory at the same time. No significant differences between the two groups were found. The Inventory was administered to both groups, two months later, and significant differences between them emerged on the mean scores of the dimensions Outer-directed/Inner-directed, Self-Actualising value and Capacity for Intimate contact; significant differences also emerged on the subscales of Self-regard, Acceptance of regression and Spontaneity. Vahia et al. (1973) reported findings which provide indirect support for the findings of the above studies using "Psychophysiological" therapy, which is derived from the concepts of Patanjali. It was found that the training of psychiatric out-patients suffering from a variety of psychoneurotic and psychosomatic conditions in a modified and simplified version of Patanjali's 8 limbs of Yoga significantly reduced scores on Taylor's anxiety rating scale as compared to therapy with anxiolytic and anti-depressant drugs.

Osis et al. (1973) reported the results of a factor analytic study designed to extract the central psychological dimensions of what they term "the meditative state" (1973, p.109). The self-reports in questionnaire form of a group of meditators were collected before and after group meditation sessions in a laboratory, and then subjected to a factor analysis. On the basis of the work of theorists of comparative religion, the authors treated the various meditational orientations and methods as comprising similar "core processes" (1973, p.110) and therefore selected subjects with a wide range of techniques, including Yoga practitioners, Quakers, Hasidic Jews and Catholics. Their heterogeneity was also employed in order to control to some

extent for the influence of the subjects' belief systems on the data. Six replicated factors emerged from the analysis of data from 1425 subject sessions, namely: "Self-transcendence and Openness"; "Mood brought to session"; "intensification and change of consciousness"; "meaning dimension"; "forceful exclusion of images" and "general success of meditation" (Osis et al., 1973, p.115). The authors conclude that these factors designate those processes which are common to all forms of meditation, and argue that the diversity of meditational techniques of their subjects weakens the criticism that these factors describe the belief-systems of the subjects, in that "different beliefs of different subjects will tend to cancel each other out" (1973, p.130).

4.2 Research Findings on the Physiological Correlates of Meditation

As indicated in the previous section (4.1), scientific research on meditational practices has placed a major emphasis upon the isolation and quantification of changes in physiological variables. Although research has been conducted on practitioners of a variety of meditational orientations and techniques, the type most frequently investigated has been Transcendental Meditation (TM). Although based upon the classical Yoga Sutras of Patanjali, the method is a departure from the main body of Yogic theories and practices (Goleman, 1971) in that it is characterised as constituting a simple, easily learned technique which does not require any familiarity with esoteric metaphysical doctrines. Subjects are therefore readily available, by comparison with other meditational orientations; in addition each

TM student receives identical instruction; the only individual variation occurs in the mantram assigned to the individual, thus minimising inter-subject variability. Some research has also been carried out on practitioners of Zen and Yogic meditation.

TM has been shown to significantly increase skin resistance, indicating a state of deep relaxation with a reduction of anxiety and emotional disturbances (Wallace, 1970; Wallace and Benson, 1971; 1972; Wallace et al., 1971). Reduction of anxiety following training in TM has been shown to be sustained over a long period of time (Doucette, 1972; Nidich et al., 1973; Simpson et al., 1971; Vaneslow, 1968). Wallace (1970) further observed a slight increase in the acidity of arterial blood, a marked decrease in blood lactate level and a slowing of the heart rate during TM, and reported that oxygen consumption decreased and remained low during meditation, increasing toward the resting level after the session. A decreased respiration rate was also reported by Allison (1970) during the practice of TM. A decreased respiration rate during meditation was confirmed in studies with Zen meditators who displayed decreased oxygen consumption and a reduction of carbon dioxide output (Sugi and Akutsu, 1968). These findings were further confirmed, and in addition the spontaneous Galvanic skin response was observed to decrease, while pulse rate and blood pH showed a slight increase in a later study of Zen meditators (Akishige, 1968). Studies of the autonomic functions of Yoga practitioners produced evidence of decreased oxygen consumption and carbon dioxide elimination (Anand, Chhina and Singh, 1961) and suggested that practitioners of Yoga can reduce the heart rate and respiration rate at will (Wenger,

Bagchi and Anand, 1961). The findings of the above studies suggest that metabolic rate is reduced during meditation.

A number of studies have investigated the EEG patterns accompanying meditational practices. Research on Zen monks indicated a marked predominance of alpha activity during Zazen. The alpha waves increased in amplitude and regularity, particularly in the frontal and central brain areas. Experienced subjects displayed a slowing of the alpha frequency, from the usual 8-12 cps to 7-8 cps; in addition rhythmical theta waves of 6-7 cps appeared. Continuous trains of alpha were interrupted by a click stimulus, but no habituation of the alpha blocking response occurred after repeated presentations of the stimulus, whereas this did occur in a control group (Kasamatsu, Hirai and Izawa, 1961; Kasamatsu and Hirai, 1961).

Studies of Yoga practitioners indicated an increase in alpha amplitude and activity during meditation (Anand, Chhina and Singh, 1961). In several of the subjects in this study there was loss of the alpha blocking response to a variety of external stimuli, which provides some support for the findings of a previous study in which no change in Galvanic skin response was observed in response to external stimuli (Bagchi and Wenger, 1957).

The above findings differ somewhat from those obtained from the study of practitioners of the visionary method of Kriya Yoga. Instead of the alpha rhythm Das and Gastaut (1957) observed that an extremely fast beta rhythm with high amplitude waves was characteristic of this technique. This pattern, indicative of high arousal, was paralleled

by an acceleration of the heart rate (ECG). The presentation of a variety of external stimuli had no effect upon the EEG pattern.

Emerson (1974) interprets the differential findings with respect to Kriya Yoga on the one hand and Zen and Classical Yoga on the other as evidence that the practitioners of the three methods actually enter different states of consciousness, in that the EEG of practitioners of Classical and Kriya Yoga together with the findings concerning the GSR and ECG seem to point to a near complete withdrawal from and loss of awareness of the external environment whereas the Zen meditator appears to maintain a moment to moment, "here and now" awareness of the environment. These conclusions suggest that EEG findings are consistent with the underlying philosophy of each practice, in that the meditator may achieve a state of consciousness which accords with his discipline's teachings and hence his own expectations.

Research on the EEG patterns of TM practitioners provides some support for the findings concerning Zen and Classical Yoga meditators, although some controversy has arisen. Initially, several studies reported an intensification of slow alpha waves with occasional theta activity during TM (Wallace, 1970; Wallace, Benson and Wilson, 1971; Wallace and Benson, 1972). On the basis of these and other physiological findings, discussed at the beginning of this section, Wallace et al. (1971) suggested that TM induces a single, unique state of consciousness which differs from ordinary relaxed and sleep states, in short a "wakeful, hypometabolic, physiologic state" (Wallace, Benson, and Wilson, 1971). This contention has been given some support by the findings of Banquet (1973), Banquet and Sailhan (1976), Levine

(1975), Dhanaraj and Singh (1973) and Corey (1974). However, a number of investigators have challenged Wallace et al.'s findings and conclusions. Fenwick et al (unpub. man.) observed similar metabolic changes in their TM subjects, but interpret the EEG patterns as being characteristic of drowsiness or Hypnagogic/Stage I sleep with reduced mental alertness. The hypothesis of reduced mental alertness is, the authors suggest, further supported by the appearance of theta waves in the meditational EEG. With regard to the other physiological changes reported by Wallace et al., Fenwick et al. suggest that similar changes observed in their own subjects can be interpreted either as artifacts or else explained with the framework of "accepted physiological mechanisms" (p.24). The hypothesis of sleep during TM has received additional support from the results of a study conducted by Younger et al. (1973) in which they report that advanced TM practitioners spent 41 percent of meditational time in sleep stages I and 2 as indicated by the EEG. Otis (1974) has stated that the BMD-Y92 program used by Wallace does not check for artifacts, and the same author has reported results which indicate that 23 TM subjects showed consistently more stage I sleep in their meditation records than did a group of matched control subjects. Wada and Hamm (1973) also found sleep stages I and 2 in the EEG records of both experienced and inexperienced meditators, and in the most recent study on this theme, Pagano et al. (1976) report that five experienced practitioners of TM spent an appreciable proportion of meditation time in sleep stages 2, 3 and 4. The authors entertain the possibility that meditation "might produce a dissociation between the EEG and consciousness that would permit a subject to be awake even though his EEG recorded indicated sleep"

(1976, p.309), but reject this explanation since subjects reported having been asleep or drowsy in correspondence with the stage of sleep indicated by the EEG. Banquet and Sailhan (1976) have also reported that beginning TM meditators showed drowsiness in the meditation EEG record. Experienced meditators, however, showed shortened transitions from alpha to large amplitude delta periods. In the extreme case, large delta bursts occurred on a background of alpha activity without any significant transition (Banquet and Sailhan, 1976, p.182). Subject reports indicated a state of "deep rest with preservation of intact awareness" (ibid, p.185). The authors further observed that the total duration of sleep in experienced meditators is shorter than average; one subject could consistently signal (with a buzzer) the occurrence of k-complexes or delta sequences in stage 3 sleep; furthermore, "dream phases became shorter or less frequent. The content was mostly wish dreams of the type encountered during childhood" (ibid, p.183). The authors do not unfortunately expand upon this latter observation. The pattern of awareness of continuity of consciousness occurring synchronous with the EEG delta frequency characteristic of deep sleep has also been observed in a study with a single Yoga practitioner, who could accurately repeat test sentences read to him while the EEG of meditation operated at the theta and delta frequencies of stage 2 and stage 3/4 sleep (Pines, 1973, pp.82-83).

By way of comment on the findings cited above, it should be emphasised that Yogic doctrines (and other esoteric traditions) constantly caution aspirant meditators against falling asleep. With reference to the Zen training, Herrigal (1953) writes, " ... one gradually gets

into a state which resembles the melting drowsiness of sleep ... to slip into it (i.e. sleep) finally is a danger which has to be avoided. It (the drowsy stage) is met by a peculiar leap of concentration ... " (p.56). It is possible that some of the subjects investigated in laboratory studies are failing to make this "leap of concentration", while others have succeeded in mastering the technique, this giving rise to the contradictory findings reviewed in this section. Pagano et al. (1976) in fact conclude that their EEG results indicate that "meditation is an activity that gives rise to quite different states, both from day to day, and from meditation to meditation" (p.309). A perspective on this conclusion is suggested by Goleman's (1971) conceptualization of meditation as "meta-therapy"; resistances to self-knowledge have been shown to be considerable even in more conventional forms of psychotherapy, where the ego resists any attempt to transform the psychic status quo out of the fear that it will be annihilated or diminished in the process; following this line of reasoning it is possible that the same or similar unconscious factors are operative in inducing sleep at a critical stage in meditation. In any event, the trend of the physiological findings on meditation point to the practice inducing a highly relaxed physiological state, which is a condition considered necessary for the production of vivid imagery by Jung, and by many other forms of psychotherapy utilising imagery techniques (Singer, 1974).

4.3 Dreaming and its Relationship to the Sleep Cycle

Although the scientific investigation of sleep began little more than

a century ago, it received a major stimulus with Berger's (1929) discovery of the human electroencephalogram (EEG), and the discovery that measurable differences in the EEG reflect waking and sleeping (Gibbs et al., 1935; Loomis et al., 1935, 1937; Blake, 1937; Knott et al., 1939). The traditional view that sleep was an homogenous condition was dispelled by Loomis et al.'s (1937) classification of sleep into five stages, influenced so they thought by variations in endogenous and exogenous stimulation. However, it was Aserinsky's (1953) observation that eyelid movements could be detected in sleeping infants that led Aserinsky and Kleitman (1953, 1955) to study this phenomenon in conjunction with the monitoring of the sleep EEG and EOG in adult subjects. They reported that jerky, binocularly synchronous rapid eye movements (REM's) occurred in all subjects at approximately 90 minute intervals throughout the night. The REM's were observed to occur in conjunction with a low voltage EEG pattern, and furthermore, when subjects were awakened in the midst of a REM period, they frequently recalled and related vivid dreams. This discovery led Dement and Kleitman (1957) to classify sleep into two distinct categories, rapid eye movement (REM) sleep and non-rapid eye movement (NREM) sleep. The latter category was further subdivided into four stages on the basis of cyclical EEG and EOG changes throughout the night. The cycle begins with the transition from the waking state, indicated by alpha (8-12 cps) and/or low voltage, mixed frequency EEG activity to stage I sleep, characterised by the progressive disappearance of alpha activity from the EEG record and the commencement of slow rolling eye movements in the EOG recording (Rechtschaffen and Kales, 1968). The appearance of sleep spindles

(12-14 hz activity) of at least 0,5 seconds duration (ibid, 1968) and k-complexes (EEG wave forms with a well delineated negative sharp wave)(Johnson and Karpan, 1968) in the EEG heralds the onset of stage 2 sleep, where theta (6-7 cps) activity predominates in the EEG. As time into sleep accrues high voltage slow wave delta activity (2 hz or slower) begins to appear on the EEG record, replacing the theta activity; when the delta activity occupies at least 20 % but not more than 50% of the EEG recording, stage 3 sleep commences. When more than 50% of the EEG record consists of delta activity, the individual is said to be in stage 4 sleep. Following approximately 70 minutes of slow wave (stages 3 and 4) sleep, the first REM period generally occurs (Berger, 1969). It is heralded by a brief return of the EEG to stage 2 activity and by a series of body movements following which the EEG consists of low voltage, mixed frequency activity which differs from stage I sleep in the presence of distinct "sawtooth" waves (Berger et al., 1962), in the comparative lack of sharp vertex waves and in the presence of episodic REM's. In addition alpha activity is more pronounced during stage REM than in stage I, and is generally 1-2 cps slower than during wakefulness (Johnson et al., 1967). This sleep cycle is generally repeated four to six times during the night, depending upon total sleep time (Foulkes, 1966), but during the cycle the amount of time spent in stage 4 sleep decreases while time in stage REM increases (Dement, 1965). The last sleep cycles of the night to not comprise stage 4 sleep, but consist of an alternation of stage 2 and stage REM (Johnson, 1973). Each sleep cycle lasts approximately 90 minutes, and in the young adult about 20% consists of stage REM, with the remaining 80% distributed

over NREM stages (Johnson, 1973).

Mental activity at sleep onset, i.e. during the transition from waking to stage I sleep is associated with unusual kinds of bodily sensations (e.g. "falling") and hypnagogic hallucinations (Foulkes and Vogel, 1965; Foulkes et al., 1966; Vogel et al., 1972; Pope, 1973; Bosinelli, 1975). Foulkes and Vogel (1965) elicited reports of mental activity from 95% of awakenings from sleep onset, and found that these reports occasionally resembled REM reports. They divided sleep onset into four stages: awake alpha rhythm with REM's, alpha rhythm with slow rolling eye movements, stage I sleep and stage 2 sleep. Reports from category 2 above generally consisted of accounts of fragmentary visual material, which changed into more rational, self-involved mentation during stage 2.

Aserinsky and Kleitman had elicited reports of vivid ongoing mental activity 74% of the time when subjects were awakened from REM sleep, and only 7% of the time from NREM awakenings. Dement and Kleitman (1957 b) obtained essentially the same results, and this high incidence of recall from REM sleep has been confirmed in several studies (Table I). Findings for NREM awakenings have however been inconsistent, recall of mental activity ranging from 0% (Dement, 1955) to 81% (Castaldo and Shevrin, 1970). This discrepancy is due to the lack of agreement among researchers as to what constitutes a dream. Foulkes' (1962) figure of 74% recall from NREM awakenings is due, he suggests to his including fragmentary reports of mental activity which resemble everyday thinking in his categorisation of those mental activities

TABLE I

Percentage of recall of dream reports following REM and
NREM awakenings (Berger, 1969, pp.17-32)

AUTHORS	REM	NREM
Aserinsky and Kleitman (1955)	74	7
Dement (1955)	88	0
Dement and Kleitman (1957)	79	7
Wolpert and Trosman (1958)	85	0
Jouvet, Michel and Mournier (1960)	60	3
Snyder (1960)	62	13
Wolpert (1960)	85	24
Kremen (1961)	75	12
Foulkes (1962)	82	74
Orlinsky (1962)	85	42
Rechtschaffen, Verdone and Wheaton (1963)	86	23
Foulkes and Rechtschaffen (1964)	89	62
Goodenough et al. (1965)	76	21
Hobson et al (1965)	76	14
Kales et al (1967)	81	7
Larson and Foulkes (1969)	74	58
Castaldo and Shevrin (1970)	95	81

which define a dream. However, if a dream is defined as, for example, "a verbal report of a bizarre or unreal nature, in which the narrator himself is often actively involved" (Berger, 1969, p.227), then most studies confirm Aserinsky and Kleitman's figure of 7% dream recall from NREM awakenings. It is now generally established therefore that NREM dream reports are less elaborate, more everydayish, shorter in duration, consist of fewer characters other than the dreamer, are more conceptual and contain more recent events from daily routine than REM reports (Foulkes and Rechtschaffen, 1964; Goodenough et al., 1965; Foulkes, 1966; Rechtschaffen et al., 1963). NREM dream reports are in addition elicited less frequently than REM reports, but tend to become more vivid as the time into sleep increases (Foulkes, 1966, 1967; Shapiro, Goodenough and Cryler, 1963; Foulkes and Vogel, 1974). Kremen (1961) found that when he asked his subjects whether they had been dreaming or not following REM and NREM awakenings, he obtained figures similar to the original Dement and Kleitman (1957) findings. Furthermore, Monroe et al. (1965) found that experienced judges could differentiate REM from NREM reports with 90% success, and in addition were able to successfully distinguish REM "thinking" reports from NREM "thinking" reports, and REM "dreaming" reports from NREM "dreaming" reports.

Time into REM sleep has also been found to affect the quality of subject reports. Foulkes and Rechtschaffen (1964) reported that when the sleeper was permitted to remain in REM sleep for between 9 and 24 minutes the reports elicited were more emotional, dramatic and distracted than those obtained within 4 to 60 seconds after REM onset.

Dement and Kleitman (1957 b) found that the length of a REM dream report increased proportionally to time into REM sleep prior to awakening. Dream reports elicited from REM periods occurring earlier in the night are reported to be less active, dramatic and perceptual than those elicited from later REM periods (Domhoff and Kamiya, 1964; Foulkes, 1966, 1967; Shapiro et al., 1963).

Goodenough et al. (1965) reported that the method of awakening also affected the quality of dream reports. Gradual awakenings produced reports which were more "thought-like" more often than did abrupt awakenings.

It seems likely therefore, in view of the above research findings, that when Jung and other depth psychologists refer to dreams, they are referring largely to mental activity characteristic of REM sleep. In fact the REM report undoubtedly resembles more closely what most people understand by a dream, although sleep researchers have themselves reached no consensus as to what constitutes a dream as yet. It is generally felt that each researcher should use his own definition (Freeman, 1972) and this author himself provides a definition which is adequate for the purposes of the present investigation; a dream is therefore defined as "mental activity which occurs during REM sleep, and is sampled by waking the sleeper and asking him what was going through his mind" (Freeman, 1972, p.23).

4.4 Methodological Considerations in Dream Research

4.4.1 The 'First Night' Effect

The existence of the 'first night' effect is well documented in laboratory studies of dreams and sleep patterns (Agnew et al., 1966; Schmidt and Kaelbling 1968, 1971; Rechtschaffen and Verdone, 1964; Mendels and Hawkins, 1967; Dement et al., 1965). The findings of the above researchers indicate that the first night's sleep in the laboratory is characterised by a decrease in REM sleep and an increase in the total time the subject spends awake during the night. Dreams recorded on the first night generally refer to the laboratory situation, where features of the laboratory environment, such as electrodes, the experimenter, the EEG recording apparatus, etc., are incorporated into the content of REM reports (Van de Castle, 1971). This phenomenon is ascribed to the novelty of sleeping in an unfamiliar environment. It has, therefore, been standard practice to exclude the first night's data from analysis.

Recently, however, the existence of a 'first night' effect has been contested in the results of several studies performed with normal subjects and psychiatric inpatients (Coble et al., 1974; Kupfer et al., 1974; Toner et al., 1975; Globus, 1970; Williams et al., 1972; Clausen et al., 1974). Coble et al. (1974) observed a significant decrease in stage REM latency from the first to the second night when the laboratory was modified so as to approximate as closely as possible to a private, comfortably furnished room, with television facilities,

etc.; moreover, Kupfer et al. (1974) were unable to detect any alteration in sleep patterns on the first laboratory night.

However, in view of the contradictory nature of the evidence at the present stage of research into this phenomenon, it would seem prudent to include a first laboratory adaptation night in sleep and dream research.

4.4.2 Dreams Recorded under Laboratory and Home Conditions

The recording of dreams in the laboratory has several advantages over dreams recorded at home, in that it is possible to obtain a large sample of dreams in a very short period of time, and the effects of the manipulation of experimental variables can be recorded accurately. In addition, since the dream is recorded almost immediately after it has occurred, the possibility of secondary revision on the part of the subject is minimised. It is furthermore possible to record samples of dream material from each REM period of the night, whereas dreams from the initial REM periods of the night are generally forgotten, since individuals in their usual sleeping environments often only recall material from the last REM period prior to awakening, which is the longest and generally the most vivid (Foulkes, 1966, 1967; Shapiro, Goodenough and Cryler, 1963; Foulkes and Vogel, 1974; Wolpert and Trosman, 1958).

The disadvantage of laboratory dreams is that the sample of dream material thus obtained differs in several respects from dreams recalled

spontaneously in the subject's usual sleeping environment (Van de Castle, 1971). Laboratory dreams are reported to be less dramatic and more prosaic than home dreams (Domhoff, 1967; Hall and Van de Castle, 1966). In addition it has been observed that home dreams contain significantly more sexual and aggression/misfortune themes, while laboratory dreams contain more bizarre elements (Domhoff and Kamiya, 1964). Van de Castle (1971) suggests that the above findings are due (1) to the possibility that the artificiality of the laboratory setting results in more "bland and prosaic" dreams (p.34), (2) that subjects edit dream content in the direction of more socially acceptable content, and (3) that more interesting, vivid and impressive dreams are recalled at home, whilst uninteresting or prosaic dreams from a night's sleep are forgotten, since they do not possess sufficient emotional and dramatic intensity to be recalled upon awakening in the morning. Van de Castle suggests further that those dreams recalled at home are possibly "the ones most closely related to the important psychodynamic patterns of the subject" (1971, p.34).

The above findings are contradicted to some extent by results reported by Weisz and Foulkes (1970), who were unable to detect any significant differences between home and laboratory dreams in percentage of recall, median dream word counts, and dream ratings for vivid fantasy, unpleasantness, active participation and sexuality. However, home dreams were judged to contain significantly more verbal and physical aggression. The authors conclude that "although impulse related content may be more likely to occur in home dreams than in laboratory dreams, the basic dream processes of imagination, distortion, dramatization, etc.,

are the same in both settings" (Weisz and Foulkes, 1970, p.588).

It would seem advisable that dream research which requires a large but representative sample of dream material should include both laboratory and home reports in the design.

4.4.3 Perceived Demand Characteristics in Dream Research

Orne (1962) has emphasised the performance of the subject in psychological experimentation, in the sense that he will attempt to "ascertain the true purpose of the experiment and respond in a manner which will support the hypothesis being tested" (Orne, 1962, p.9). The subject's knowledge or lack of knowledge of the hypothesis, together with any cues which might convey this to him, are therefore important factors in determining the subject's behaviour. Orne (1962) has demonstrated the extremes to which subjects will go in order to perform well on an experimental task, i.e. to be "good" subjects, and has reported that such compliance occurs largely on a "nonconscious" (p.IO) level; he states further that demand characteristics cannot be eliminated from an experimental situation, but should be taken into account and studied as variables in their own right with a view to assessing their influence upon the results of studies.

Tart (1964, 1969) has drawn attention to the possible influence of demand characteristics upon dream content, and a recent investigation (Stern, 1977, in preparation) has demonstrated the modification of dream content as a result of demand characteristics.

4.4.4 The Effect of the Experimenter

McGuigan (1963) and Kintz et al. (1965) have emphasised the characteristics of the experimenter as a factor in the experimental situation. The experimenter may bias subject responses in accordance with his theoretical expectations, and may also bias the results of a study in accordance with these theoretical expectations. The obvious control for this "expectancy effect" was originally thought to be a simple matter of effecting data collection by means of another "surrogate" experimenter who was naive with respect to the hypotheses of the study. However, Rosenthal et al. (1963) reported that "a subtle transfer of cognitive events" (p.313) existed, in spite of the experimenter not disclosing the hypothesis to the data collector; The authors conclude "It now appears that E's simply not telling A the hypothesis may not insure A's ignorance of that hypothesis" (ibid, p.333). Rosenthal (1963) reported that both visual and auditory cues, including gestures and inflections of the voice influenced the behaviour of S's. McGuigan (1963) suggests that the best control for the experimenter effect in single experimenter designs is to hold his influence constant for all subjects.

With reference to dream research, it has been reported that subjects withhold personal dreams from the experimenter (Whitman et al., 1963). Keith (1962) reported that the presence of transference in laboratory dream reports is likely, in that the dream may be distorted or reported to the experimenter in such a way as to avoid embarrassment.

5.0 CONSTRUCTION AND STATEMENT OF HYPOTHESES

The complex theoretical positions of Jungian theory and Yogic doctrines point to a relationship between the practice of meditation and sleep mentation, specifically REM mentation. As previously discussed (Section 3.2) writers on Yoga contend that the practitioner ceases to dream upon the attainment of an advanced level of proficiency in meditation. Given that the individual has not progressed to this level, dreams are said to become less frequent (Section 3.2). This latter contention is paralleled to some extent by Jung's observations that dream material diminishes during the extended practice of active imagination (Section 2.4.4). Furthermore, the findings of Banquet and Sailhan (1976) that dream phases become shorter or less frequent during the practice of TM (Section 4.2), supports the contentions and observations of Yogic doctrines and Jungian theory. If therefore, the techniques of active imagination and Yogic meditation are equivalent in their effects upon the psyche, it could be predicted (1) that practitioners of Yogic meditation would report fewer dreams, and (2) that practitioners of Yogic meditation would report dreams that contain less content than the dreams reported by individuals who do not practice meditation. Two hypotheses were therefore formulated and stated as follows:

HYPOTHESIS I

Practitioners of Yogic meditation will report fewer REM dreams and home recalled dreams than individuals who do not practice Yogic meditation.

HYPOTHESIS 2

The REM dream reports and home recalled dreams of practitioners of Yogic meditation will contain less content than those of individuals who do not practice Yogic meditation.

There is, however, reason to suspect that Yogic meditation and active imagination are not identical in their effects upon the psyche; although Jung viewed them as equivalent in aim, he conceptualized their methods as being different, in that Yoga utilises a deliberate strengthening of the conscious mind and the will, whereas active imagination induces a deliberate weakening of consciousness (Section 2.4.4). Furthermore, Jung observed that archetypal material increases markedly during individuation, so much so that the process can be followed by the progressive integration of specific archetypes into consciousness following the deflation of the personal unconscious (Sections 2.4.1 and 2.4.2); this pattern is reflected in the progression of images in dream life. Yogic doctrines pertaining to the stages of Samadhi conceptualize consciousness penetrating to the inner form of the meditation object, which is termed an "archetype" (Section 3.3). Both Jung and the Yogic authors therefore conceive of individuation or self-realization as constituting a progression from personal to transpersonal (impersonal or archetypal) levels of experience, due to a fundamental re-orientation and restructuring of the personality attendant upon the experience of the Self. On the basis of Jung's compensation - complementation theory of conscious/unconscious relations, it would be expected that this pattern of the transpersonal or archetypal

level of experience replacing or superseding the personal would be reflected in the dream life of the individual. In so far as meditation, in whatever form it takes, can be conceptualised as a procedure for facilitating individuation or self-realization (Section 2.4.4), it would therefore be expected that the practice of meditation would be accompanied by an increased frequency of occurrence of archetypal material in dreams.

This latter hypothesis was formulated and stated as follows:

HYPOTHESIS 3

The REM dream reports and home recalled dreams of practitioners of Yogic meditation will be more Archetypal (Transpersonal) than the dreams of individuals who do not practice Yogic meditation.

Hypotheses I and 2, and hypothesis 3 were conceptualized as being to a large extent mutually exclusive in that the reported vividness, impact, and impression made upon the dreamer by an archetypal dream (Section 2.3.2) would be unlikely to result in its being forgotten. Furthermore the content of such a dream would be likely to be reported at great length, due to its strangeness and unfamiliarity to the dreamer's consciousness (Section 2.3.2). The confirmation of hypotheses I and 2 would therefore preclude the confirmation of hypothesis 3.

The Yoga-derived technique of Transcendental Meditation is said to "un-stress" the nervous system by releasing accumulated psychological

stresses physiologically in accordance with an hypothesised "psycho-physiological" principle (Section 3.5.2). The first two limbs (yama and Niyama) of Patanjali's Yogic system attempt to eliminate stresses and disturbances arising from the physical body by means of a process of inhibition achieved by concentration upon their underlying cause, the subconscious latencies or "vāsanās" (Sections 3.2 and 3.4).

These disturbances relate chiefly to sexuality and aggression, and the presence or absence of sexual and aggressive themes in dreams is said to provide an index of the moral development of the Yoga practitioner (Section 3.2). These formulations suggest that the dreams of practitioners of Yogic meditation might contain less sexuality and aggression, and furthermore, might be less stressful, i.e. more hedonically positive in tone, due to the anticipation and discharge of unrealized unconscious material during the "unstressing" process of meditation.

HYPOTHESIS 4

The REM dream reports and home recalled dreams of practitioners of Yogic meditation will contain less sexuality, as assessed from the manifest content, than the dreams of individuals who do not practice Yogic meditation.

HYPOTHESIS 5

The REM dream reports and home recalled dreams of practitioners of Yogic meditation will contain less aggression, as assessed from the manifest content, than the dreams of individuals who do not practice

Yogic meditation.

HYPOTHESIS 6

The REM dream reports and home recalled dreams of practitioners of Yogic meditation will be more hedonically positive in tone, than the dreams of individuals who do not practice Yogic meditation.

In his description of the method of active imagination Jung emphasised the active participation of the individual in his own fantasies (Section 2.4.4). If Yogic meditation and active imagination are in fact equivalent, notwithstanding expectations to the contrary, then it is possible that increased ability to concentrate, to "actively participate" in fantasy activity during meditation would also be evident in nocturnal fantasies, i.e. REM mentation. A seventh hypothesis was therefore formulated and stated as follows:

HYPOTHESIS 7

The REM dream reports and home recalled dreams of practitioners of Yogic meditation will display more active participation by the dreamer in the dream events than the dreams of individuals who do not practice Yogic meditation

METHODOLOGY6.0 METHODOLOGY6.1 Subjects

Two groups of subjects were employed in the present investigation. The meditation group comprised four males and three females, who ranged in age from 21-67 years, with a mean age of 41.3 years. The wide age range was dictated by the need to control for the increase in archetypal dreams observed by Jung to occur at the critical stages of life (Section 2.4.1) and also by the purely logistical consideration of the difficulty of obtaining subjects with a small age range, who were also sufficiently experienced and adept at Yogic meditation. All the subjects used in this investigation had practiced Yogic meditation for at least five years. The age, sex and approximate length of practice of meditation of each subject is presented in Table 2 below.

SUBJECT	AGE	SEX	LENGTH OF MED. PRACTICE
1	67	F	20 years
2	62	F	10 years
3	47	M	30 "
4	32	F	9 "
5	21	M	6 "
6	27	M	7 "
7	35	M	5½ "

TABLE 2. Age, Sex and Length of Practice of Meditation of Subjects

All subjects were proficient in the physical postures or āsanās of hatha yoga. Four were professional Yoga teachers, and all considered Yogic meditation to be central to their life styles. In the initial selection of subjects, individuals who were accustomed to using a visualisation technique were excluded in order to control for the different EEG patterns observed in meditators who utilise visualisation (Section 4.2), and also to circumvent any overlap in technique with Jung's active imagination method. Following the recommendations of Emerson (1974) the method and technique of meditation was controlled for by using subjects who were proficient in the use of a combination of mantram and breathing techniques, and whose technique of meditation could thus be accommodated within the 8 limbs of Yoga as outlined by Patanjali. All subjects were accustomed to practising meditation twice a day for approximately 30 minutes morning and evening.

The meditation subjects were matched with requisite control subjects on age, sex, educational level, socioeconomic and marital status. Control subjects' ages ranged from 23-62 years, with a mean age of 39,3 years. A breakdown of the age and sex of control subjects is presented in Table 3 below.

Control subjects did not, and had never practised meditation. They were not familiar with Jungian theory or Yogic doctrines. One of the criteria for the selection of subjects for both the meditation and control groups was that they were not familiar with Jungian Psychology, and that they did not take an active interest in their dreams. The meditation subjects in fact tended to depreciate the value of dreams as yet another form of "illusion", and generally claimed that they did

SUBJECT	AGE	SEX
I	62	F
2	51	F
3	47	M
4	32	F
5	23	M
6	27	M
7	35	M

TABLE 3. Age and Sex of the Control Group Subjects

not dream. In order to control for the perceived demand effect in dream research (Section 4.5.3), meditation subjects were informed that the purpose of the study was to investigate the physiological and psychological characteristics of sleep and meditation, and it was emphasised that since the investigation was of an exploratory nature, the experimenter had as little idea as to what would emerge as the subjects themselves. Control subjects were informed that they were participating in an investigation of the physiological and psychological characteristics of sleep, and that meditators were also involved. Control subjects were likewise informed that the experimenter had as little idea as they did concerning what would emerge. A deliberate effort was made to emphasise the physiological aspects of the study to all the subjects, and they were told that it was necessary to collect their dreams in order to supplement the physiological measures. At no stage were the hypotheses of the study disclosed to the subjects.

6.2 Apparatus

6.2.1 The Sleep Laboratory

The subjects slept in a private, sound attenuated, temperature regulated and comfortable sleep laboratory (Figure 1). Unless subjects specifically requested otherwise, the temperature was maintained at 74^oF and approximately 50% humidity in order to approximate ideal sleep conditions (Holdstock and Verschoor, 1974). The subject's sleeping quarters were connected by intercom to an adjacent room containing the electrophysiological monitoring equipment.

6.2.2 Electrophysiological Apparatus

A Beckman type R Dynograph multipurpose laboratory recorder (Figure 2), equipped to record six channels of information was employed. This apparatus included six type 48I B Preamplifiers, 3 type 482 Amplifiers and 6 type AN 3057-6 Amphenol size I4 leads. EEG and EOG information was recorded in ink on prefolded Beckman No. 344-206569 rectilinear paper fed through a vertical paper chart drive with 8 possible speeds ranging from 0.1 to 25 cm per second.

Beckman silver chloride disc electrodes were used to monitor the EEG and EOG, and were attached to the scalp and outer canthus of each eye with collodion adhesive. This adhesive can be readily dissolved with acetone, and has the added advantage of being quick drying. DB electrode paste was used as the conducting medium.



Figure I. The Sleep Laboratory

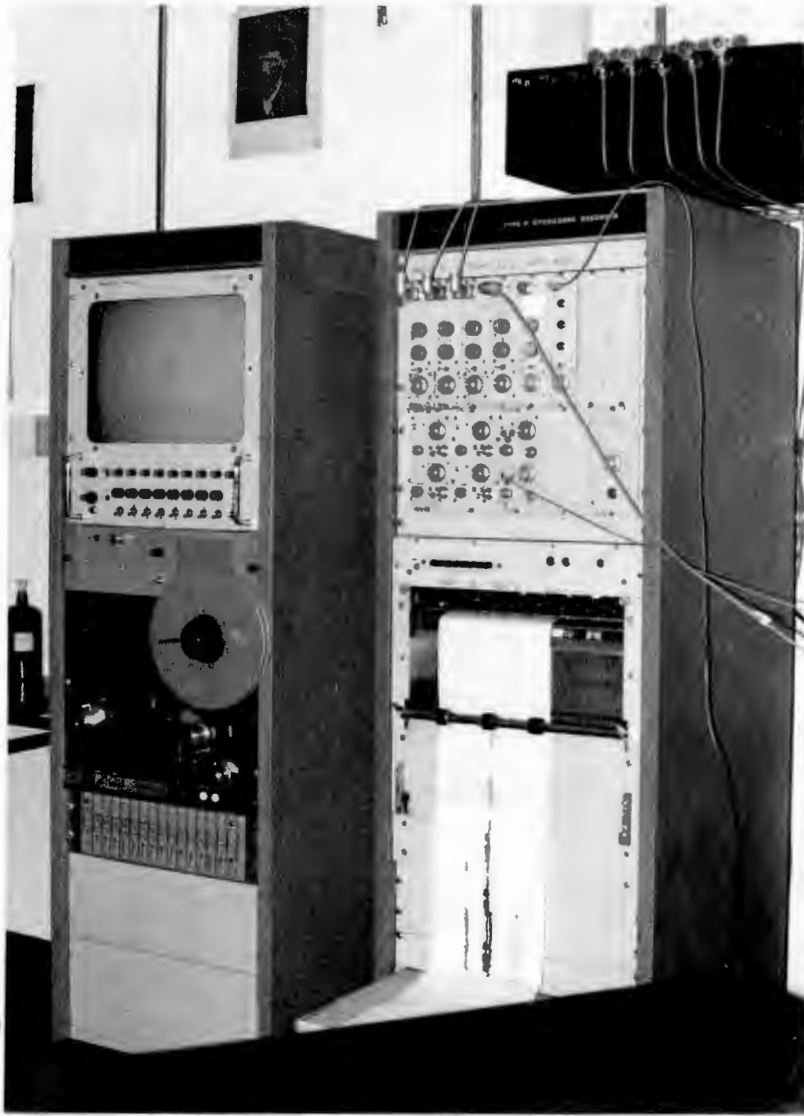


Figure 2. The Electrophysiological Recording Apparatus

A Beckman Type EO-I8 Oscilloscope equipped to display 8 channels of information was employed to supplement the dynograph recordings (Figure 2).

6.2.3 Tape Recording Equipment

A JVC Type I6I0 V Nivico portable cassette tape-recorder with a built-in electret-condensor microphone was used to record the REM dream reports.

6.2.4 Dream Report Rating Scales

The Archetypal/Everyday Dream Scale

A major measure used in this investigation was a dream scale, devised by H.Y. Kluger (1975) which discriminates between Archetypal dreams and 'Everyday' dreams (personal dreams). The scale is presented in full in the text, rather than as an appendix, since the results of the study depend for their elucidation upon a close examination of the categories of the scale. Furthermore, the scale is comparatively unfamiliar when compared with the other measures used in this investigation, all of which have been extensively employed in the dream research literature. Kluger's scale discriminates between Archetypal and 'Everyday' dreams on four criterion categories: presence and closeness of mythological parallels; degree of affect; increasing irrationality and increasing remoteness from everyday life. Spearman rank correlation coefficients of ,97 (Everydayness), ,95

(Irrationality), and ,94 (Affect) between the ratings of two independent judges suggest that the scale is reliable. In order to assess the reliability of the mythological parallel criterion category, which presumes an in-depth familiarity with mythology, folklore and comparative religion, Kluger compared the level of obtained agreement between two scorers to that of chance; sixteen out of twenty-five scores assigned by the two judges were identical, and this was significant ($p=.0016$) as calculated by the binomial formula. Kluger's scoring categories and instructions are as follows:

Mythological Parallel

Score present or absent. If the dream contains a mythical parallel, estimate whether it is close or distant, using the numbers 3,2 and 1.

3. A Close Parallel: - Example: In an oriental temple giant statues come to life. One says, "The time has come for the battle between Good and Evil, for which I have waited for eternity." A tremendous battle ensues between them. Parallel: Zoroastrianism; also the book of Revelation. Example: A man dreams he descends to a basement meeting room where he goes through a ritual to make him a male prostitute. This is accompanied by tremendous feelings. Next a baby in a carriage is wheeled in, and this is the Lamb of God. Parallel: the ancient mystery religions with their secret initiations, often underground; their hierodules (sacred prostitutes, male and female); and their rebirth symbolism and apotheoses.

2. A Moderate Parallel: - Example: The dreamer slips something into her husband's pocket - his penis, wrapped in pliofilm. She then has mixed feelings, having accomplished her mission, but wondering how it would be able to be put back in use again. Parallels: the myths of Isis and Osiris, and of Attis and Cybele, with their themes of restoring a dismembered phallus and the problem of its subsequent effectiveness.

- I. A Distant Parallel: - Example: "Flying anywhere I wanted, rising and falling at will." Parallel: the myth of Icarus. Example: being chased through the woods by a witch. Parallels: various fairy tales.

0. No Parallel.

Affect

It is the affect of the dreamer (the dream ego) which is scored, not that of any other dream character. If not explicitly stated, or implied, the degree of affect may be estimated by the scorer.

4. Very strong: great fear, panic, horror, ecstasy.
3. Strong or Stressed: afraid, scared, happy, delighted, excited.
2. Mild to Moderate: pleasant, unpleasant, very interesting, very satisfying, glad, annoyed.
- I. Slight or absent.

Rationality

The considerations in scoring dream content under this category are the degree of likelihood of their occurrence, and the degree of their adherence to natural law.

4. Rational and not unlikely: - Examples: riding a bike, hitting a stone and falling off.
3. Rational - possible (i.e., possible, conceivable, but uncommon or unexpected): - Examples: being chased, caught and raped; San Francisco being bombed by the Russians.
2. Rational - unlikely (i.e. very unlikely, although not violating any natural law): Examples: being chased from tree to tree by a white bear; some men chased, caught and tried to poison me.
- Ix Borderline (i.e. the operation of natural law is uncertain or questionable): Example: a long row of black box cars rolling by on a railroad track. There was no engine.
- I. Non-Rational but Comprehensible: Examples: playing in the barnyard and suddenly covered with green snakes; our guns wiped out everything in front of them.
0. Irrational (i.e. impossible in reality): Examples: a toothed fish chased me out of the pool and across the fields; about a man with a lion's head.
- B. Bizarre: Example: the veins on my chest stood out, studded with rhinestones and sequins.

Everydayness

4. For dreams just like everyday life: Examples: making plans with

a friend for a car trip to a neighbouring town; having to go to the bathroom; working or talking with some people.

3. Slight variations from everyday life: Examples: running in a relay race with two best friends, somehow got in wrong exchange area and have to give up the race; or, (a student) "I had already graduated and gotten a good position in my field."
 2. Unlikely variations from everyday life: Examples: returning to apartment to find all the furniture gone and workmen removing the bathroom pipes; all the girls in the dorm getting together for the last time before vacation, all sad and crying at the prospect of the long separation.
- Ix With an impossible twist to everyday life: Examples: cleaning out a fishbowl, the fish swam up the stream of water pouring into it; a horse performing tricks suddenly turns into an elephant.
- I. Very unlikely in everyday life: Examples: walking along a dirt road, an airliner flies so low over us we could almost touch it. It circles back, lands on a road hitting a group of people as though intentionally.
 0. Very remote from everyday life, or with the feeling tone of the strange and unfamiliar: Examples: three priests with icepicks sitting at a round table, each begins lightly picking the left arm of his neighbour, increasing this to jabbing and furiously stabbing until it's a horrible bloody scene; "I walk through a maze of high hedges. I am trying to reach the centre. There is a mist in the air, and grass is beneath my feet. I feel I am near a river or a moat. I have very long hair, and clothing that belongs to another century. I sing the old folksong "Where I come

from nobody knows". I feel I must get out or get to the centre."

B. Bizarre: Example: the veins on my chest stood out, studded with rhinestones and sequins.

In order for a dream to be considered archetypal, it must attain a critical score on at least three of the four criterion categories.

Thus:

- Mythical Parallel - the presence of a parallel.
- Affect - a score of 3 or 4.
- Rationality - a score of 1 or less
- Everydayness - a score of 1 or less

The archetypality score of a dream indicates the number of categories in which it scored at or above the critical level, and may therefore range from 0-4. Dreams may thus be assigned to the discrete categories Archetypal or non-Archetypal, and also assigned a graded rating for degree of archetypality (Kluger, 1975, pp.24-27). The concept of a degree of archetypality, together with the above defining characteristics of the concept are nowhere to be found in the Jungian literature (Kluger, 1977 - personal communication).

The Physical Aggression (PA) Scale (Foulkes and Rechtschaffen, 1964).

The Physical Aggression scale is a seven point ordinal scale (0-6), and measures overtly physically aggressive behaviour in dreams (Appendix I). Possible classes and types of physically aggressive behaviour, graded according to increasing intensity, comprise each

point on the scale. The dream is scored as a whole, with the highest score of any dream event being treated as the score for the dream. The scale is designed for use with individual dreams only. In the initial construction of the scale, Foulkes and Rechtschaffen (1964) distinguished between physical aggression 'need', where the dreamer is the agent, and physical aggression 'press', where other dream characters are the agents, and applied the scale as such. However, a factor-analytic study (Hauri et al., 1967) indicated that this distinction was not useful, whereas a distinction between verbal and physical aggression was. The scale was subsequently used by Foulkes et al. (1969) without distinguishing between physically aggressive behaviour initiated by the dreamer and by other dream characters, and this procedure has been followed in the present investigation. Foulkes and Rechtschaffen (1964) reported an inter-rater reliability of $r=0,91$ when the scale was used to evaluate 78 dreams for physical aggression. Weisz and Foulkes (1970) reported an inter-rater reliability figure of 0,88 when the scale was applied to 38 dream reports, 20 of which were obtained in the laboratory and 18 at home.

The Verbal Aggression (VA) Scale (Foulkes and Rechtschaffen, 1964).

The Verbal Aggression Scale is a seven point ordinal scale (0-6) and measures overt verbal aggressive behaviour (Appendix 2). Like the Physical Aggression Scale, this scale is graded in terms of the intensity of verbally aggressive interactions, ranging from "mild teasing or other indirect forms of interpersonal derogation" (Foulkes and Rechtschaffen, 1964) to abusive, malicious derogation of another

individual. The scale does not distinguish between verbal aggression 'need' and 'press', since this distinction was not deemed central by Hauri et al.'s (1967) factor analytic study of the scale. Verbal threats of physical aggression are scored as physical aggression on the relevant scale (above). Foulkes et al. (1969) reported inter-rater reliability as 0,92 (78 dreams) and Weisz and Foulkes (1970) reported a figure of 0,97 (38 dreams).

The Manifest Sexuality Scale (Swanson and Foulkes, 1968)

The Manifest Sexuality Scale is a seven point ordinal scale (0-6) and measures overt sexual behaviour and manifest sexual feeling (Appendix 3). Sexuality displayed by the dreamer receives a higher rating than the same behaviour displayed by other dream characters. Like the Verbal and Physical Aggression Scales, the Manifest Sexuality Scale is designed to be used with individual dream reports, and the highest score which can be assigned to any one dream event or episode is taken as the score for the dream as a whole. Manifest sexuality is defined in terms of physical intimacy (e.g. intercourse), socialised sexual encounters (e.g. dating, joking, teasing behaviour with members of the opposite sex) and symbolic or suppressed sexual behaviour, with highest scores being assigned to physical intimacy, and lowest to symbolic or suppressed sexuality. The scale measures heterosexual behaviour only. Pearson Product moment correlation coefficients for inter-rater reliability were reported as 0,71 (40 dreams), 0,79 (34 dreams), 0,51 (38 dreams) and 0,84 (39 dreams) by Swanson and Foulkes (1968). All of the above dream samples were recorded in the laboratory.

The Hedonic Tone Scale (Foulkes, Spear and Symonds, 1966).

The Hedonic Tone Scale, as its designation implies, is designed to measure the degree of pleasantness and unpleasantness of individual dream reports. It is a seven point ordinal scale (I-7) (Appendix 4), with scores of I-3 designating the degree of pleasantness, and scores of 5-7 the degree of unpleasantness. Hedonically neutral or otherwise unscorable dreams are assigned a score of 4. Hedonically mixed dreams are scored by means of a special adjustment procedure. The judge assigns the maximum P (pleasantness) score to any one dream element or episode, and following this the maximum UP (unpleasantness) score. The UP score is then doubled and added to the P score. The total is then divided by 3 in order to obtain a weighted average in the direction of unpleasantness. All fractions are rounded off to the next highest digit if the figure is above 5, and to the next lowest if the figure is below 4. The following possible scores are thereby obtained:

MAXIMUM UP ELEMENT	MAXIMUM P ELEMENT	WEIGHTED AVERAGE	SCALE VALUE
7	I	5,0	5
7	2	5,3	6
7	3	5,7	6
6	I	4,3	5
6	2	4,7	5
6	3	5,0	5
5	I	3,7	3
5	2	4,0	4
5	3	4,3	5

In the case of hedonically unmixed dreams, the rater assigns the most extreme score which could be given to any one dream element or episode; for example:

$$1 + 2 + 3 = 6$$

$$5 + 6 + 7 = 18$$

The weighting procedures are reported to increase the reliability of the scale, since they circumvent the disparity which would result from each rater assigning his own overall rating to the dream report. Nevertheless, the scale still has the limitation that it relies upon the rater's own subjective judgement as to what constitutes pleasantness or unpleasantness, since these terms are not defined (Appendix 4). Inter-rater reliabilities of 0,78 (14 dreams) were reported by Foulkes et al. (1966) and Weisz and Foulkes (1970) reported a figure of 0,86 (38 dreams) for inter-rater reliability.

The Active Participation Scale (Foulkes et al., 1969)

The Active Participation Scale is a seven point ordinal scale (1-7), which is designed to measure the degree of involvement and participation by the dreamer in dream events (Appendix 5). Only individual dream reports should be rated on this scale. Inter-rater reliability was reported as 0,80 (78 dreams) by Foulkes et al. (1969). Weisz and Foulkes (1970) reported a figure of 0,76 as inter-rater reliability for 38 dream reports.

6.3 Procedure

6.3.1 Electrophysiological Recording Procedure

Meditation subjects reported to the laboratory thirty minutes prior to their usual evening meditation times, which had been established by informal interview prior to the subjects commencing the study. Subjects then changed into the comfortable apparel in which they were accustomed to meditate; in this regard it was ensured that subjects wore loose-fitting clothing so as to prevent any interference with the electrodes when and if clothing was removed for sleep. Subjects were then seated in a comfortable chair and the appropriate electrode placement areas were thoroughly cleaned with cotton wool which had been immersed in alcohol. D.B. electrode paste was then applied to the placement areas and rubbed in, in order to facilitate conduction. The Beckman silver chloride disc electrodes were then placed in position on the scalp and outer canthus of each eye, and secured with collodion adhesive paste. The EOG electrodes were in addition taped to the skin with No.1530 micropore surgical tape. A ground electrode, common to all transducers, was attached to the forehead. A blunted hypodermic needle attached to a syringe filled with D.B. paste was then inserted into the aperture in the centre of each electrode and the skin gently abraded to remove any dead hornified cells which could interfere with conduction. The electrode was then filled with D.B. paste. Electrode placements followed the Jasper IO-20 system (1968), the C3 and C4 and O1 and O2 positions being employed. Bipolar EEG recordings were thus obtained from the central and occipital brain areas. EOG recordings

of horizontal eye movements were obtained from electrodes placed 1-2 cm lateral to the outer canthus of each eye (Figure 3).

The following Dynograph settings were used for all subjects. The time constant for the type 9806 A A/C coupler was set at 0,3, and the high frequency filters at 3. The type 48I B preamplifier was set at 0,5 millivolts per centimeter. The type 482 M8 amplifier was set at X0,I. For the EOG recordings the type 48I B preamplifier was set at I millivolt per centimeter, the type 482 M8 amplifier at 0,I.

Following the completion of this procedure, the EEG and EOG leads were connected to the dynograph, and the recording checked, tested and adjusted where necessary. The subject then took up his accustomed meditation posture, and the experimenter returned to the adjoining room containing the monitoring equipment. The subject then followed the following instructions, which were related by intercom. The subject was instructed to sit quietly with his eyes open (5 mins), sit quietly with his eyes closed (5 mins), to commence meditation (30 mins). Soft music (3 mins) signalled the end of the meditation period, following which subjects sat quietly with their eyes closed (5 mins), and following this period with their eyes open (5 mins). This procedure was followed in order to measure the EEG and EOG patterns of meditation against a baseline and post-meditation period. The results of this procedure are not included in the present report.

Following completion of the meditation period, the electrode leads were disconnected from the Dynograph, and the subjects generally

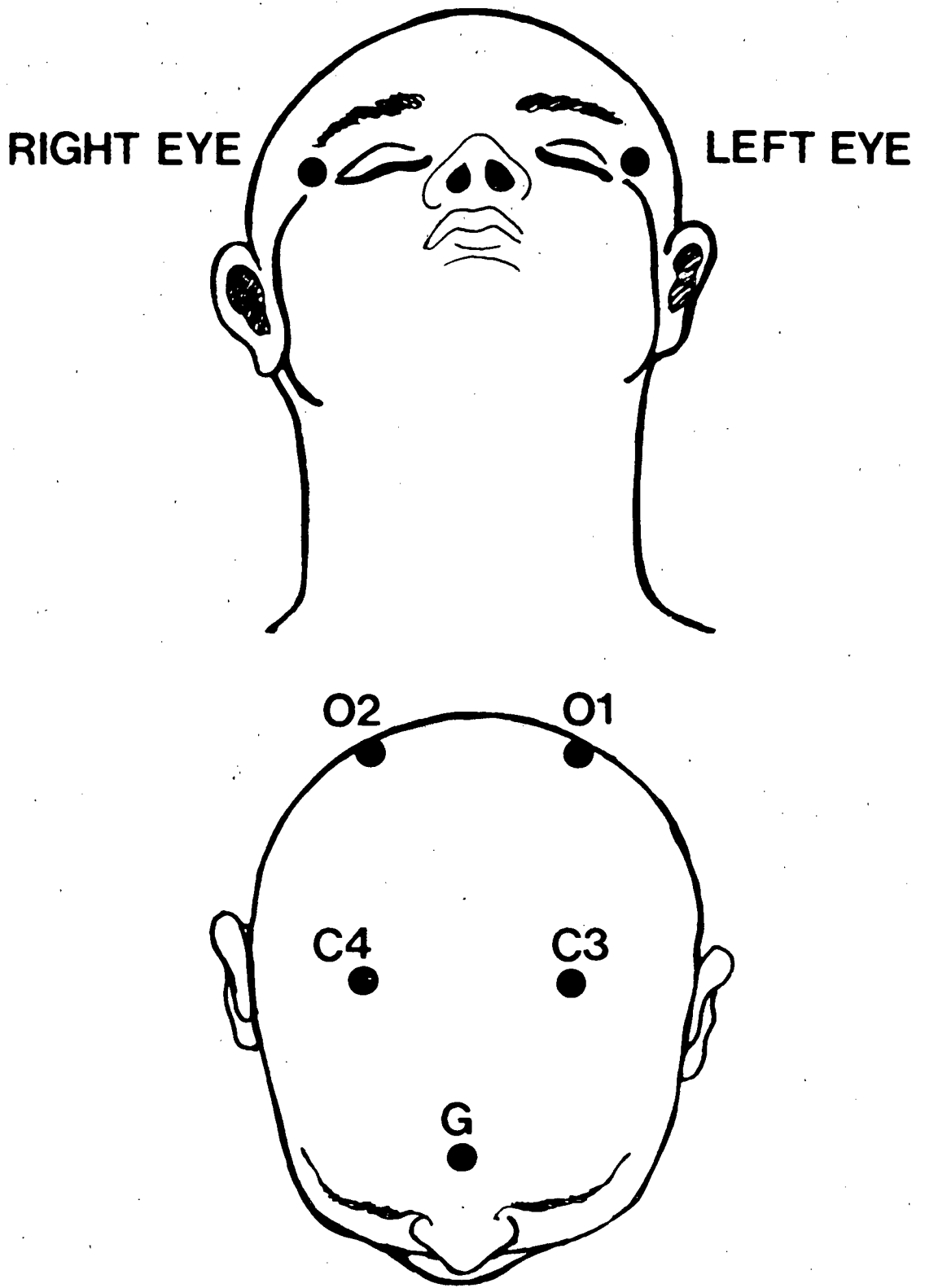


Figure 3. EEG and EOG Electrode Placement Sites

retired to bed. When the subjects reported that they were ready to sleep, the leads were reconnected and the EEG and EOG activity was checked by the experimenter on the paper printout and the oscilloscope. Adjustments were made where necessary, and the EEG recordings closely examined for artifacts. Subjects were then asked to look to the left and to the right in order to determine whether any disturbances on the EOG channel had occurred in the interval between the end of the meditation period and retiring to bed. The lights in the sleep room were then turned off, and the night's recording commenced.

Subjects were awoken at a specified interval into each REM period of the night. The intervals suggested by Foulkes and Rechtschaffen (1964) namely 5, 10, 15, 20 and 25 minutes into REM periods I-5 respectively were employed. The standard criteria for distinguishing REM sleep were employed (Rechtschaffen and Kales, 1968). Dream reports were elicited upon awakening according to the Larson Interview schedule (Larson, 1969) (Appendix 6), and were recorded on tape, for later transcription and analysis, following which the subject was permitted to sleep again. Subjects were briefed beforehand concerning the awakening procedure, and were reassured concerning possible misapprehensions they had about being awoken and asked to report their dreams. The subject was awakened by the experimenter calling his/her name and/or by gently touching the shoulder (Kales et al., 1967).

Control subjects followed the identical procedure, with the difference that they reported to the laboratory 80 minutes prior to their normal sleeping times. Following the completion of the wiring up and recording

checking procedure (30 minutes), the subjects relaxed in bed and read magazines for 50 minutes prior to sleep. This procedure was followed in order to balance the meditation and non-meditation conditions.

Active control subjects were not employed, since in a pre-experimental pilot study it was established that non-meditators found it stressful to remain immobile for 50 minute periods.

6.3.2 REM Dream Report and Home Dream Report Collection Schedule and Procedure

Subjects were tested over a period of 21 days (Figure 4). They commenced the study (day 1) with an adaptation night, on which the full procedure was carried out. Data from this night was discarded in order to control for the atypical sleep and dream patterns characteristic of the 'first night' effect (Agnew et al., 1966; Hartmann, 1967; Scharf et al., 1969; Schmidt and Kaelbling, 1971; Kupfer et al., 1974; Coble et al., 1974). Testing then continued for the remaining 20 days, with the subject reporting to the laboratory twice during this period. Dream material from two full laboratory recording nights was thus obtained. On the remaining 18 days, subjects recorded their home dreams on standardised forms prepared for this purpose, thus enabling a comparison to be made between dreams produced under relatively artificial laboratory conditions and dreams obtained from the less artificial but also less controlled home environment. This combination of laboratory and home diary methods also controlled for the differences between laboratory elicited and home recalled dreams (Domhoff, 1967; Hall and

NIGHTS	I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Meditation Group	Adap- tat- ion		Home dream recording				Lab Rec			Home dream recording				Lab Rec			Home dream recording				
Control Group	Adap- tat- ion		Home dream recording				Lab Rec			Home dream recording				Lab Rec			Home dream recording				
E X P E R I M E N T A L C O N D I T I O N																					

Figure 4. REM Dream Report and Home Dream Report Collection Schedule

Van de Castle, 1966; Domhoff and Kamiya, 1964; Van de Castle, 1971; Weisz and Foulkes, 1970). Subjects were required to report to the laboratory on the 7th day following the adaptation night, and again 7 days after this first experimental laboratory recording night in order to control for any REM deprivation and "rebound" effect (Oswald, 1970; Dement, 1972).

Female subjects commenced the study on the fourth day of the menstrual cycle in order to control for the increase in REM sleep prior to menstruation (Hartmann, 1966) and for the changes in dream content observed to occur with the phases of the menstrual cycle (Swanson and Foulkes, 1967; Van de Castle, 1971).

REM sleep awakenings and the collection of home dream reports were effected by a single experimenter throughout the study. At the time of collecting the laboratory and home dreams, the experimenter was unaware of the Archetypal/Everyday dream scale, thereby minimising the possibility that reported dream content could have been influenced to conform to the categories of the scale by means of the experimenter "expectancy" effect (Section 4.5.4) and by "demand" characteristics (Section 4.5.3).

6.3.3 Dream Report Rating Procedure

All dream reports were rated by the same experimenter who effected their collection on each of the six dream scales used in this investigation. In order to obtain a measure of inter-scorer reliability, a random

sample of 32 dreams, balanced over the entire range of scores assigned by the experimenter on the Archetypal dream scale, was selected and independently rated by a psychiatrist familiar with Jungian theory, but who was not connected with the study. The second rater was therefore unaware of the hypotheses of the study, and no indication was given as to whether the dreams were obtained from a meditation or control subject, thereby satisfying the conditions for "blindness". A second random sample of 20 dreams was selected and scored by an independent experienced dream researcher on the Manifest Sexuality scale, the Physical and Verbal Aggression scales, the Hedonic Tone scale and the Active Participation scale. This second scorer was likewise unaware of the hypotheses of the study and of whether the dream was produced by a meditation or control subject.

6.3.4 Procedure for Rating Dreams on the Archetypal/Everyday Dream Scale

The scoring of the "Mythological Parallel" criterion category of the Archetypal/Everyday dream scale requires some familiarity with mythology folklore and comparative religion (Section 6.2.4) and a knowledge of Jung's method of dream analysis. As Kluger (1975) observes, "there is no dictionary of archetypal motifs by which to identify an archetypal dream" (p.24), and the scorer must therefore adhere closely to Jung's method of amplification and elaboration of symbols, which consists of the tracing of correspondences and analogies between the dream symbols and relating them to the symbolic configurations and themes of mythology, folklore and comparative religion. Jung writes "We look at all the symbols and try to construct the meaning which seems to be

indicated by the totality of the attributes" (1975, p.15). A major aspect of the Jungian synthetic method was of course not employed in the method followed in this investigation, and this concerns the contribution by the dreamer himself of associations, parallels, etc. This is a limitation of Kluger's scale, and is probably inherent in any attempt to quantify dream material which rests upon an interpretive method. Jung nevertheless himself analysed a series of dreams to which no personal associative material was adduced *, and admits that it is possible "under very special conditions" (1960h, p.283) to interpret the dream without the collaboration of the dreamer.

The procedure followed in the present investigation was to score each individual dream on the other three criterion categories of the Archetypal/Everyday dream scale first, thereby obtaining the scores for degree of "Affect", "Rationality" and "Everydayness". If these scores approached or exceeded the critical score for archetypality on each measure the dream was then closely examined for the presence of a mythological parallel. All dreams which had been rated as containing no parallel were then re-examined for the presence of such a parallel after the entire sample had been scored. In order to establish the presence or absence of a parallel the Collected Works of C.G. Jung, together with various source works on symbolism, mythology, and comparative religion were consulted. The example cited in Appendix 7 clarifies the procedure followed.

* cf Psychology and Alchemy. CW Vol. 12. Routledge and Kegan Paul, London, 1953.

6.4 Definitions and Terminology

Dream recall was defined according to the criteria specified by Foulkes (1970). The minimum criterion for "recall" is the mention of at least one item of specific dream content. This definition is qualified by Foulkes as indicating, for example, not "I was thinking" but "I was thinking about home"; not "I saw images" or "I had feelings" but "I saw a car" or "I felt sad"; etc. (1970, p.1).

6.5 Statistical Treatment of Results

The points on the criterion categories of the Archetypal/Everyday dream scale were ranked in ascending order. For example, scores on the Rationality criterion category (Section 6.2.4) which are denoted by the figures 4, 3, 2, Ix, I, 0, B were ranked in the ascending order, I, 2, 3, 4, 5, 6, 7, thereby yielding a graded rating for dream material falling on or between the extremes of "Rational and not unlikely" and "Bizarre". The same procedure was followed for the "Everydayness" criterion category. The points on the "Mythical Parallel" and "Affect" criterion categories are already ranked numerically in ascending order in Kluger's (1975) construction of the scale.

In order to test the hypothesis concerning dream recall, a rate for laboratory dreams was calculated for each subject by dividing the total number of REM dreams recalled by the total number of times the subject was awakened during a REM period. Similarly, a rate for home dream recall was calculated by dividing the total number of discrete dreams

reported per subject by the number of nights (18) during which home dreams were recorded.

In order to test the hypothesis concerning the diminution of dream content, the number of words describing images in each dream reported was calculated as an index, and following the method of Weisz and Foulkes (1970), a rate for each subject was obtained by dividing the total number of descriptive words per dream by the total number of dreams per subject. This was done separately for both home and laboratory dreams. Only the spontaneously reported material from the laboratory awakenings was scored, i.e. any responses of the subject to the questions following on this initial report in the Larson interview schedule (Appendix 6) were not scored.

The hypotheses concerning changes in dream content were similarly tested by calculating a rate for each subject on each of the dream scales employed. The identical procedure was followed for the four criterion categories of the Archetypal/Everyday dream scale. The overall archetypality rating on this scale was also calculated.

No data analysis was carried out until after the data collection procedure had been completed in order to control for the experimenter inadvertently biasing subject responses in accordance with the confirmation or rejection of the alternate hypotheses of the study.

Results were tested for significance by the independent samples t test (Edwards, 1962) on a Hewlett-Packard (HP 2114 B) computer.

Requirements for homogeneity of variance were satisfied for each test. Inter-scorer reliability on each of the dream content rating scales was assessed by the Pearson Product Moment Correlation coefficient (Edwards, 1962).

RESULTS7.0 RESULTS

The present investigation entailed a total of approximately 336 hours of electrophysiological recording, over a total of 42 laboratory recording nights. A total of 279 dreams was collected, comprising 158 from the meditation group and 121 from the control group. In the case of the meditation group 113 dreams were recorded at home, and 45 were REM dream reports obtained in the laboratory. The control group produced 79 home recalled dreams, and 42 were laboratory recorded REM dream reports.

7.1 Frequency of Dream Recall

A comparison of the mean rate of dream recall between the meditation and control groups under laboratory conditions is presented in Table 4, and under home conditions in Table 5. Under laboratory conditions the meditation group displayed a significantly higher mean recall rate per number of REM periods per night than the control group ($P < 0,025$). Under home conditions the results followed a similar pattern, with the meditation group scoring higher, although the difference between the two groups was not significant ($P < 0,10$).

7.2 Word Count Index of Dream Content

A comparison of the mean word count index of dreams reported by the

	MEDITATION GROUP	CONTROL GROUP
$\bar{x} \pm SE$	0,91 \pm 0,04	0,75 \pm 0,65
t		2,45
df		12
P		< 0,025

Table 4. Comparison of the meditation and control groups on mean recall of dreams per number of REM periods per night (\pm SE)(2 nights).

	MEDITATION GROUP	CONTROL GROUP
$\bar{x} \pm SE$	0,89 \pm 0,16	0,62 \pm 0,09
t		1,38
df		12
P		< 0,10

Table 5. Comparison of the meditation and control groups on mean recall rate of dreams per night reported under home conditions (\pm SE)(18 nights).

meditation and control groups under laboratory and home conditions is presented in Table 6. Under laboratory conditions, the dream reports of the meditation group contained significantly more words descriptive of dream images than did those of the control group ($P < 0,025$). Under home conditions the difference between the two groups although in the same direction as the laboratory dreams, was not significant ($P < 0,10$).

7.3 The Dream Content Investigation

7.3.1 Interscorer Reliability on the Archetypal/Everyday Dream Scale

The correlation coefficients and means for each scorer are presented in Table 7. These obtained coefficients of correlation were all significant ($P < 0,01$). There were no marked or consistent differences between the means of each scorer.

7.3.2 Interscorer Reliability on the Manifest Sexuality Scale, the Physical and Verbal Aggression Scales, the Hedonic Tone Scale and the Active Participation Scale

The correlation coefficients and means for each scorer on each scale are presented in Table 8. These coefficients of correlation were all significant.

		MEDITATION GROUP	CONTROL GROUP
MEAN WORD COUNT INDEX	$\bar{x} \pm SE$	227,16 \pm 37,05	126,15 \pm 19,34
OF LABORATORY	t		2,42
DREAMS	df		12
	P		< 0,025
MEAN WORD COUNT INDEX	$\bar{x} \pm SE$	135,82 \pm 20,46	92,30 \pm 25,12
OF HOME DREAMS	t		1,34
	df		12
	P		< 0,10

Table 6. Comparison of the mean word count index of the dreams of the meditation and control groups reported under laboratory and home conditions (\pm SE)

RESEARCHER	I x mean	II y mean	r	p
Mythological				
Parallel	1,43	1,40	0,77	<0,01
Affect	2,43	2,21	0,66	<0,01
Rationality	3,62	3,84	0,85	<0,01
Everydayness	4,21	4,40	0,92	<0,01

Table 7. Estimates of agreement in the scoring of the criterion categories of the Archetypal/Everyday dream scale by two independent judges according to specified criteria (32 dream reports).

RESEARCHER	I x mean	II y mean	r	p
Active Part.				
Scale	3,70	3,60	0,89	< 0,01
Man. Sexuality				
Scale	0,60	0,60	0,88	< 0,01
Verbal Agg.				
Scale	0,25	0,10	0,65	< 0,01
Physical Agg.				
Scale	4,10	4,10	0,88	< 0,01
Hedonic Tone				
Scale	0,70	0,50	0,88	< 0,01

Table 8. Estimates of agreement in the scoring of the Active Participation Scale, the Physical and Verbal Aggression Scales, the Manifest Sexuality Scale and the Hedonic Tone Scale by two experienced dream researchers according to specified criteria (20 dream reports).

7.3.3 Archetypal (Transpersonal) and Non-Archetypal (Personal) Dreams

The percentage of archetypal and non-archetypal dreams in the meditation and control groups is illustrated in figure 5 (upper part). 32 percent of the total number of dreams produced by the meditation groups were archetypal, as compared with 14 percent in the control group. Moreover the proportion of archetypal dreams in the meditation group was more than double that of the control group under laboratory and home conditions. Statistical analysis of the mean frequency of archetypal dreams per subject (Table 9) revealed that there were significantly more archetypal dreams in the meditation group than in the control group under laboratory conditions ($p < 0,05$) and home conditions ($p < 0,01$). When laboratory and home dreams were combined, the difference between the two groups was again significant ($p < 0,005$).

7.3.4 Archetypality (Mean Archetypal Score)

A more refined and accurate test of the hypothesis was obtained by means of an assessment of the archetypality score of each subject. As previously explained (Section 6.2.4) the archetypality score denotes the number of criterion categories on the Archetypal/Everyday dream scale in which the dream scored at or above the critical level for archetypality. It thus yields a measure of the mean number of archetypal elements in each dream. Application of the independent samples t-test to the mean archetypal scores of the meditation and control groups revealed that the meditation group scored significantly higher under laboratory conditions ($p < 0,01$). Under home conditions the

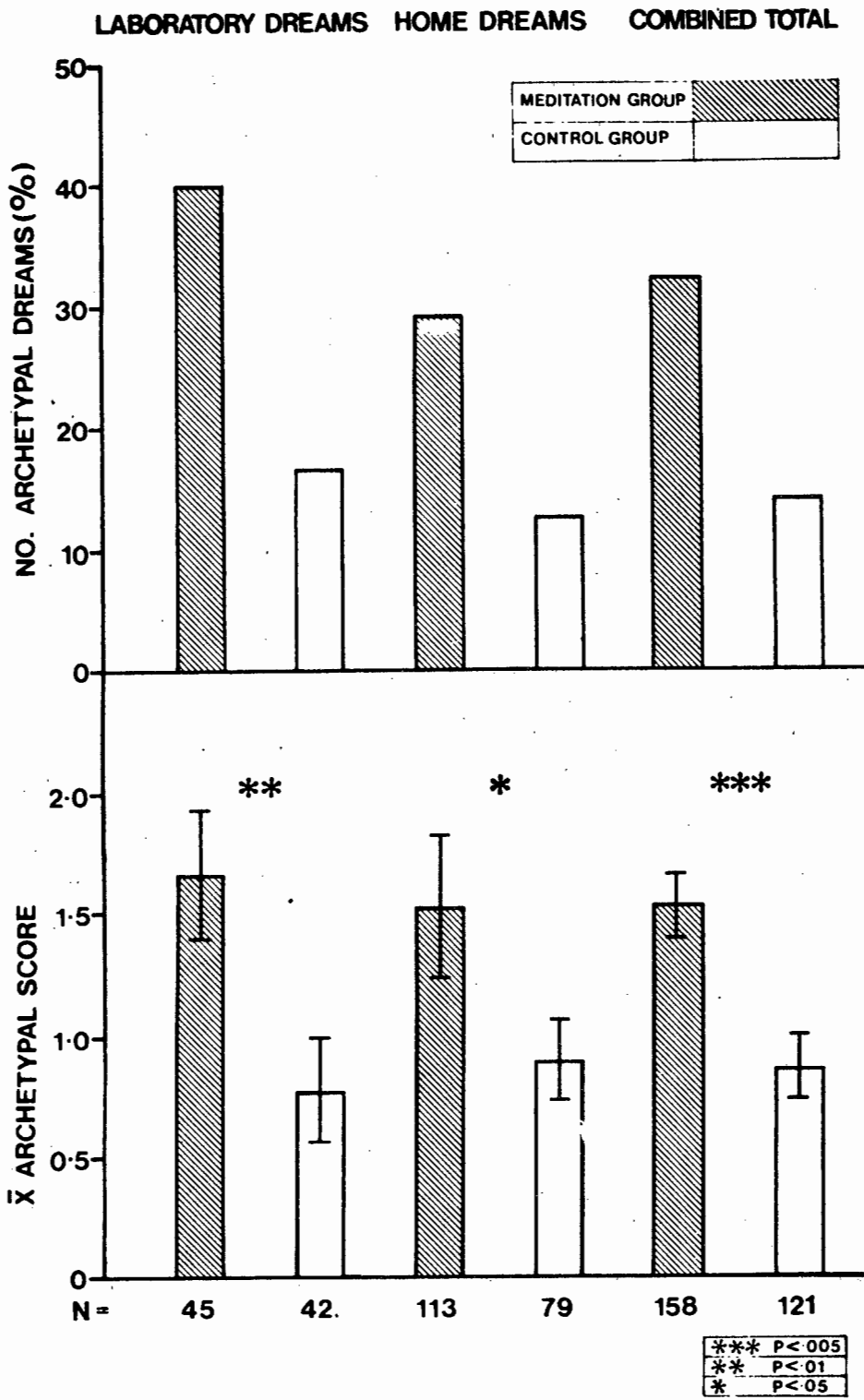


Figure 5. Comparison of the proportion of archetypal dreams (upper part) and the degree of archetypality in the dreams of meditators and control subjects (lower part). (N = number of dreams).

		MEDITATION GROUP	CONTROL GROUP
Laboratory	$\bar{x} \pm SE$	$0,39 \pm 0,09$	$0,18 \pm 0,08$
Dreams	t		1,87
	df		12
	p		<0,05
Home	$\bar{x} \pm SE$	$0,34 \pm 0,06$	$0,11 \pm 0,04$
Dreams	t		2,70
	df		12
	p		<0,01
Laboratory	$\bar{x} \pm SE$	$0,35 \pm 0,03$	$0,13 \pm 0,04$
and Home	t		4,28
Dreams	df		12
Combined	p		<0,005

Table 9. Comparison of the mean number of archetypal dreams in the meditation and control group subjects ($\pm SE$).

difference between the two groups was not as marked ($p < 0,05$). When home and laboratory dreams were combined the difference between the two groups was once again significant ($p < 0,005$). These findings are presented in Table IO and figure 5 (lower part).

7.3.5 The Mythical Parallel Criterion Category

The differences between the meditation and control groups on the criterion category of mythological parallel are presented in Table II. The meditation group scored significantly higher under laboratory conditions ($p < 0,025$). No significant difference between the two groups emerged under home conditions, although the scores were in the expected direction. When laboratory and home dreams were combined however, the difference between the scores of the two groups was once again significant ($p < 0,025$). The scores on the mythical parallel criterion category were further examined in order to establish whether the meditation and control groups differed with regard to closeness of parallel (Table I2), i.e. it was expected that the meditation group would score significantly higher on this criterion category. This prediction was confirmed under home conditions ($p < 0,05$), thereby counteracting to some extent the non-significant difference between the two groups on the overall mythological parallel comparison under home conditions (Table II). No significant differences between the two groups emerged under laboratory conditions, although scores were in the expected direction. When laboratory and home dreams were combined, the difference between the two groups was once again significant ($p < 0,01$).

		MEDITATION GROUP	CONTROL GROUP
Laboratory Dreams	$\bar{x} \pm SE$	1,67 \pm 0,25	0,76 \pm 0,17
	t		2,68
	df		12
	p		<0,01
Home Dreams	$\bar{x} \pm SE$	1,52 \pm 0,29	0,89 \pm 0,17
	t		1,86
	df		12
	p		<0,05
Combined Total	$\bar{x} \pm SE$	1,54 \pm 0,13	0,85 \pm 0,13
	t		3,65
	df		12
	p		<0,005

Table IO. Comparison of the mean archetypal (archetypality) scores of the meditation and control group subjects ($\pm SE$).

		MEDITATION GROUP	CONTROL GROUP
Laboratory	$\bar{x} \pm SE$	$0,75 \pm 0,12$	$0,37 \pm 0,08$
Dreams	t		2,50
	df		12
	p		<0,025
Home	$\bar{x} \pm SE$	$0,85 \pm 0,24$	$0,49 \pm 0,11$
Dreams	t		1,36
	df		12
	p		<0,15
Combined	$\bar{x} \pm SE$	$0,80 \pm 0,13$	$0,45 \pm 0,09$
Total	t		2,28
	df		12
	p		<0,025

Table II. Comparison of the mean scores of the meditation and control group subjects on the Mythological Parallel criterion category of the Archetypal/Everyday dream scale ($\pm SE$).

		MEDITATION GROUP	CONTROL GROUP
Laboratory Dreams	$\bar{x} \pm SE$	1,29 \pm 0,11	1,14 \pm 0,14
	t		0,80
	df		12
	p		> 0,10
Home Dreams	$\bar{x} \pm SE$	1,58 \pm 0,16	1,06 \pm 0,20
	t		1,97
	df		12
	p		< 0,05
Laboratory and Home Dreams Combined	$\bar{x} \pm SE$	1,55 \pm 0,11	1,13 \pm 0,07
	t		3,09
	df		12
	p		< 0,01

Table I2. Comparison of the mean closeness of Mythical Parallel scores of the meditation and control group subjects ($\pm SE$).

7.3.6 The Degree of Affect Criterion Category

The comparison between the mean scores of the meditation and control groups on degree of affect is presented in Table I3. Scores in this category followed a similar pattern to those of the mythical parallel category, the meditation group scoring significantly higher under laboratory conditions ($p < 0,025$). The difference between the two groups under home conditions, although once again in the expected direction, was not significant. When laboratory and home dreams were combined however, the meditation group once again scored significantly higher ($p < 0,005$).

7.3.7 The Rationality Criterion Category

A comparison between the mean scores of the meditation and control groups on the Rationality criterion category is presented in Table I4. Under laboratory conditions, the meditation group scored significantly higher than the control group ($p < 0,025$). Under home conditions the difference between the scores of the two groups although not as marked, was also significant ($p < 0,05$). When laboratory and home dreams were combined, the difference between the scores of the two groups was again significant ($p < 0,01$).

7.3.8 The Everydayness Criterion Category

A comparison between the mean scores of the meditation and control groups in the everydayness criterion category is presented in Table

		MEDITATION GROUP	CONTROL GROUP
Laboratory	$\bar{x} \pm SE$	2,15 \pm 0,15	1,65 \pm 0,10
Dreams	t		2,65
	df		12
	p		< 0,025
Home	$\bar{x} \pm SE$	2,33 \pm 0,12	2,05 \pm 0,11
Dreams	t		1,72
	df		12
	p		> 0,10
Laboratory	$\bar{x} \pm SE$	2,27 \pm 0,07	1,86 \pm 0,09
and Home	t		3,38
Dreams	df		12
Combined	p		< 0,005

Table 13. Comparison of the mean scores of the Meditation and Control group subjects on the Affect criterion category of the Archetypal/Everyday dream scale ($\pm SE$).

		MEDITATION GROUP	CONTROL GROUP
Laboratory	$\bar{x} \pm SE$	3,54 \pm 6,23	2,66 \pm 0,25
Dreams	t		2,59
	df		12
	p		<0,025
home	$\bar{x} \pm SE$	3,16 \pm 0,32	2,40 \pm 0,21
Dreams	t		2,06
	df		12
	p		<0,05
Laboratory	$\bar{x} \pm SE$	3,23 \pm 0,16	2,50 \pm 0,18
and Home	t		2,98
Dreams	df		12
Combined	p		<0,01

Table I4. Comparison of the mean scores of the meditation and control group subjects on the Rationality criterion category of the Archetypal/Everyday dream scale ($\pm SE$).

15. The pattern of results in this category was similar to that of the Rationality criterion category, the meditation group scoring significantly higher under laboratory conditions ($p < 0,05$). Under home conditions, the difference between the two groups, although not as marked, was also significant ($p < 0,05$). When home and laboratory dreams were combined the difference between the two groups was again significant ($p < 0,01$).

7.3.9 Word Count Index of Archetypal and Non-Archetypal Dreams

The meditation and control groups were compared on the mean word count index of archetypal and non-archetypal dreams in order to establish whether the significant differences between the two groups were a function of the length of the dream report. The results of this investigation are presented in Table I6. No significant differences emerged between the two groups under laboratory conditions ($p = 0,60$) and home conditions ($p < 0,60$). The results of the comparison of the two groups' mean non-archetypal word length followed a similar pattern, with no significant differences emerging under laboratory conditions ($p < 0,20$), and home conditions ($p < 0,30$).

A comparison of the mean word count index of archetypal and non-archetypal dreams of the meditation and control groups combined is presented in Table I7. The mean for archetypal dreams emerged as significantly higher than that of non-archetypal dreams ($p < 0,02$).

		MEDITATION GROUP	CONTROL GROUP
Laboratory	$\bar{x} \pm SE$	$3,67 \pm 0,30$	$2,70 \pm 0,26$
Dreams	t		2,40
	df		12
	p		<0,025
Home	$\bar{x} \pm SE$	$3,33 \pm 0,39$	$2,50 \pm 0,24$
Dreams	t		1,89
	df		12
	p		<0,05
Laboratory and Home	$\bar{x} \pm SE$	$3,50 \pm 0,25$	$2,58 \pm 0,19$
Dreams	t		2,78
Combined	df		12
	p		<0,01

Table I5. Comparison of the mean scores of the meditation and control group subjects on the Everydayness criterion category of the Archetypal/Everyday dream scale ($\pm SE$).

		MEDITATION GROUP	CONTROL GROUP
\bar{x} Word Count Index	$\bar{x} \pm SE$	244,75 \pm 30,43	282,0 \pm 36,84
of	t		0,54
Archetypal	df		9*
Dreams	p		= 0,60
(Laboratory)			
\bar{x} Word Count Index	$\bar{x} \pm SE$	159,12 \pm 19,13	130,25 \pm 33,66
of	t		0,56
Archetypal	df		9*
Dreams (Home	p		< 0,60
Reports)			
\bar{x} Word Count Index	$\bar{x} \pm SE$	195,81 \pm 31,77	126,62 \pm 12,11
of Non-	t		1,44
Archetypal	df		12
Dreams	p		< 0,20
(Laboratory)			
\bar{x} Word Count Index	$\bar{x} \pm SE$	120,08 \pm 12,09	87,96 \pm 16,04
of Non-	t		1,13
Archetypal	df		12
Dreams (Home	p		< 0,30
Reports)			

Table I6. Comparison of the mean word count index of archetypal and non-archetypal dreams produced under laboratory and home conditions (\pm SE). (Two tailed tests).

*df = 9 because some subjects did not produce any Archetypal dreams.

	ARCHETYPAL DREAMS	NON-ARCHETYPAL DREAMS
$\bar{x} \pm SE$	204,97 \pm 18,56	120,95 \pm 12,62
t	2,665	
df	25	
p	<0,02	

Table I7. Comparison of the mean word count index ($\bar{x} \pm SE$) of archetypal and non-archetypal dreams (meditation and control groups combined). (Two-tailed test).

7.3.I0 The Manifest Sexuality Hypothesis

The results relating to this hypothesis are presented in Table I8. No significant differences emerged between the two groups under home conditions, but under laboratory conditions the difference between the two groups was significant ($p < 0,05$), indicating less sexuality in the manifest content of the dreams of the meditation group. When laboratory and home dreams were combined, the difference between the two groups was once again not significant.

7.3.II The Physical Aggression Hypothesis

The results relating to this hypothesis are presented in Table I9. No significant differences emerged between the meditation and control groups under either laboratory or home conditions. When home and laboratory dreams were combined, the difference between the two groups was once again not significant.

7.3.I2 The Verbal Aggression Hypothesis

The results relating to this hypothesis are presented in Table 20. No significant differences between the meditation and control groups emerged under laboratory and home conditions. When home and laboratory dreams were combined, the difference between the two groups was once again not significant.

		MEDITATION GROUP	CONTROL GROUP
Laboratory	$\bar{x} \pm SE$	1,08 \pm 0,27	1,77 \pm 0,27
Dreams	t		1,79
	df		12
	p		< 0,05
Home	$\bar{x} \pm SE$	1,71 \pm 0,49	1,41 \pm 0,26
Dreams	t		0,53
	df		12
	p		< 0,35
Combined	$\bar{x} \pm SE$	1,49 \pm 0,37	1,43 \pm 0,16
Total	t		0,14
	df		12
	p		> 0,45

Table 18. Comparison of the mean scores of the Meditation and Control Groups on the Manifest Sexuality Scale (\pm SE).

		MEDITATION GROUP	CONTROL GROUP
Laboratory Dreams	$\bar{x} \pm SE$	1,05 \pm 0,27	0,65 \pm 0,10
	t		1,36
	df		12
	p		< 0,15
Home Dreams	$\bar{x} \pm SE$	1,07 \pm 0,28	0,80 \pm 0,21
	t		0,75
	df		12
	p		< 0,25
Combined Total	$\bar{x} \pm SE$	1,00 \pm 0,19	0,82 \pm 0,12
	t		0,80
	df		12
	p		< 0,25

Table I9. Comparison of the mean scores ($\pm SE$) of the meditation and control groups on the Physical Aggression Scale.

		MEDITATION GROUP	CONTROL GROUP
Laboratory	$\bar{x} \pm SE$	$0,62 \pm 0,19$	$0,76 \pm 0,19$
Dreams	t		0,52
	df		12
	p		< 0,35
Home	$\bar{x} \pm SE$	$0,85 \pm 0,26$	$0,60 \pm 0,10$
Dreams	t		0,88
	df		12
	p		< 0,25
Combined	$\bar{x} \pm SE$	$0,76 \pm 0,19$	$0,65 \pm 0,08$
Total	t		0,52
	df		12
	p		< 0,35

Table 20. Comparison of the mean scores ($\pm SE$) of the meditation and control groups on the Verbal Aggression Scale.

7.3.I3 The Hedonic Tone Hypothesis

The results relating to this hypothesis are presented in Table 21. No significant differences between the meditation and control groups emerged under laboratory and home conditions. When home and laboratory dreams were combined, the difference between the two groups was once again not significant.

7.3.I4 The Active Participation Hypothesis

The results relating to this hypothesis are presented in Table 22. Under laboratory conditions the meditation group displayed significantly more active participation in their dreams than the control group ($p < 0,025$). Under home conditions the difference between the two groups was not significant. When home and laboratory dreams were combined, the difference between the two groups was once again not significant.

		MEDITATION GROUP	CONTROL GROUP
Laboratory Dreams	$\bar{x} \pm SE$	4,48 \pm 0,35	4,07 \pm 0,20
	t		1,00
	df		12
	p		< 0,20
Home Dreams	$\bar{x} \pm SE$	4,33 \pm 0,48	4,38 \pm 0,20
	t		0,10
	df		12
	p		> 0,45
Combined Total	$\bar{x} \pm SE$	4,19 \pm 0,36	4,33 \pm 0,13
	t		0,37
	df		12
	p		< 0,40

Table 2I. Comparison of mean scores of the meditation and control groups on the Hedonic Tone Scale ($\pm SE$).

		MEDITATION GROUP	CONTROL GROUP
Laboratory	$\bar{x} \pm SE$	4,06 \pm 0,12	3,50 \pm 0,18
Dreams	t		2,51
	df		12
	p		<0,025
Home	$\bar{x} \pm SE$	3,67 \pm 0,16	3,85 \pm 0,15
Dreams	t		0,78
	df		12
	p		<0,25
Combined	$\bar{x} \pm SE$	3,77 \pm 0,12	3,71 \pm 0,11
Total	t		0,33
	df		12
	p		<0,40

Table 22. Comparison of the mean scores ($\pm SE$) of the meditation and control groups on the Active Participation Scale.

8.0 DISCUSSION

8.1 Yogic Meditation and Dream Recall

The analysis of the data relating to the first hypothesis of this investigation, namely that the practice of Yogic meditation would be associated with a decreased frequency of dream reports necessitates the rejection of this hypothesis. The results of the laboratory investigation reveal the opposite of what was predicted, in that the meditation group reported significantly more dreams per number of REM awakenings than did the control group (Table 4). This finding is somewhat unexpected in view of the firm predictions made by both Jungian theory and Yogic doctrines that the practice of meditation results in a decreased frequency of dreaming. From the perspective of laboratory research on dreaming, these results could be interpreted as indicating less repression in the meditation group due to the integration of personal unconscious material into consciousness during the presleep meditation period. The repression hypothesis as the operative factor in dream recall has however not received much experimental support (Cohen, 1974). The results can be more readily interpreted within the framework of the salience hypothesis, which predicts that recall should be greater for dream experiences which are characterised by vividness, affect, bizarreness and dreamer activity (Cohen and MacNeilage, 1973; Cohen, 1974). This hypothesis has received support in several studies (Shapiro, Goodenough, Biederman and Sleser, 1964; Foulkes, 1966; Baekeland, 1969; Cohen and MacNeilage, 1973; Goodenough, Witkin, Lewis, Koulack and Cohen, 1974); in view of the

overlap between the dimensions of dream salience and several of the categories and points on Kluger's Archetypal/Everyday dream scale, it would seem that archetypal dreams are more salient, which in fact accords with Jung's conceptualizations, and therefore individuals whose dreams are more archetypal should be better recallers. The finding that the Yoga meditators did have more archetypal dreams is therefore consistent with the findings that they were better recallers. In addition, a positive relationship between dream-recall frequency and daydreaming, fantasy and imagery "ability" has been reported (Singer and Schonbar, 1961; Holt, 1972) and Cohen (1974) suggests that receptivity to inner life is an important factor in frequent dream recall. In so far as meditation might stimulate or enhance receptivity to inner experience, the findings that meditators score higher on archetypality and dream recall frequency are consistent.

Although the first hypothesis of this investigation was not confirmed, the predictions of Yogic doctrines and Jungian theory cannot be said to be entirely refuted; the results suggest that the practice of Yogic meditation can be associated with an increased frequency of dream recall, but not that dreaming, as defined physiologically by the indices of REM sleep, increases. The possibility that meditators have fewer dreams as measured by total time spent in REM sleep and shortened REM periods, as already suggested by the findings of Banquet and Sailhan (1976), remains to be further explored. Fiss (1969) in fact observed that artificially shortened REM periods yielded dream reports which were more active and generally salient, thus providing indirect support for the last mentioned possibility. Caution is further indicated

in the interpretation of the results in that no significant differences emerged between the mean dream recall of the meditation and control groups under home conditions, although scores were in the same direction as those of the laboratory investigation (Table 5).

8.2 Yogic Meditation and Diminution of Dream Content

The results suggest that practitioners of Yogic meditation report significantly longer dreams in the laboratory (Table 6). This finding necessitates the rejection of the second hypothesis of this investigation. An increased length of reported dreams would appear to be consistent with the increased frequency of recall discussed above, and this finding can also therefore be interpreted within the framework of the salience hypothesis, in that dreams which are more vivid, emotional, bizarre and active would be likely to be reported at greater length due to the heightened impression that they make upon the dreamer. Jung's observation that dream material tends to decrease or 'peter out' during the practice of active imagination does not appear to be true of Yogic meditation; the opposite is in fact indicated.

The above interpretation of the results must, however, be made with caution. The reliability of the length of the reported dream as a measure has not been studied, and subject variables, in particular the verbal and written vocabulary and facility of the individual have not been researched (Kramer et al., 1974). However, the fact that the method of awakening, the collection interview schedule and the method of recording, which have been shown to affect the length of the reported

dream (Goodenough et al., 1974; Kramer et al., 1974), were rigidly controlled for would seem to eliminate the established confounding factors.

No significant differences in the mean word count index of dreams emerged between the two groups under home conditions, this finding paralleling that of the dream recall investigation (Table 6). If the position is adopted that laboratory reports are a more accurate index of dream activity (Section 4.5.2), then these findings tend to strengthen the case for rejecting the hypothesis of decreased content in meditators' dreams. The fact that the scores of both groups tend in the same direction as the scores of the laboratory dream reports corroborates this.

8.3 Yogic Meditation and Archetypal Dream Content

The results of the first hypothesis of the dream content investigation, (that practitioners of Yogic meditation produce more archetypal dreams) was confirmed. This finding is consistent with the results of the dream recall and dream length investigations, and the rejection of hypotheses 1 and 2, as has been discussed in the preceding two sections. The meditation group scored consistently higher on the overall categories of number of discrete archetypal dreams (Table 9), mean archetypal (archetypality) score (Table 10 and Figure 5, lower part), and on each of the criterion categories (Tables 11-15). Where differences between the two groups were not significant (Home dreams: mythological parallel and affect categories), scores were in the expected direction.

These findings provide some support for Jung's distinction between the methods of active imagination and Eastern disciplines, such as Yogic meditation, in that the results suggest that the two techniques are not equivalent in method; the exact opposite would have presumably occurred if they were equivalent, i.e. dream recall would have become less frequent, dream content would have diminished and presumably mythical, bizarre, affect-laden dream imagery would have been all but absent in the dreams of the meditation group, as was reported by Jung to occur during the practice of active imagination. This point will be further discussed in a later section. On a more general level of interpretation however, the results discussed thus far suggest that Yogic meditation is accompanied by an activation of the unconscious, in particular its hypothesised collective or transpersonal substratum, which is consistent with Jung's and the Yogic doctrines' conceptualization of the transpersonal superseding the exclusively personal during the process of individuation or self-realization. Tentative support is therefore given to the hypothesis that meditational practices facilitate or stimulate the latter process.

The criticism might be raised that since the meditation group reported dreams containing more content under laboratory conditions, the confirmation of hypothesis 3 is simply due to the dreams of this group containing more of any kind of target material. However, a comparison between the mean word count index of dreams rated archetypal and non-archetypal in the meditation and control groups under both laboratory and home conditions, revealed that there were no significant differences between the groups on the relevant categories (Section 7.3.9 and Table

16), thereby discounting this possibility. If this factor had been operative, it would have been expected that the archetypal dreams of the meditators would have been significantly longer; further analysis revealed that the mean word count index of archetypal dreams was significantly higher than that of non-archetypal dreams, irrespective of whether they were produced by meditation or control group subjects (Table I7), which is consistent with the salience hypothesis discussed earlier (Section 8.1). The fact that the meditation group had more archetypal dreams accounts therefore for the differences in overall word counts between the two groups.

8.4 Yogic Meditation and Manifest Sexuality, Aggression, Hedonic Tone and Active Participation in Dreams

Hypothesis 4, namely that meditators would display less manifest sexuality in their dreams was confirmed under laboratory conditions (Table I8). This relationship was not evident in the home dream reports, or in the analysis of the combined laboratory and home reports. Yogic meditation does not appear to be accompanied by specific measurable effects on measures of physical and verbal aggression in dreams. Furthermore, practitioners of Yogic meditation do not appear to produce dreams which are more hedonically positive in nature. Little support is therefore given to the hypothesis of 'unstressing' as formulated and operationalised in this investigation. This finding is, however, weakly consistent with the findings relating to hypotheses 1, 2 and 3 in that the heightened activation of the unconscious indicated by increased recall, increased content and increased arche-

typality in dreams would not appear to be consistent with a deflation or depotentiation of the unconscious, as is implied in the concept of 'unstressing'. Another and perhaps more cogent explanation is that a transmutation of dream symbols occurs over an extended period of meditational practice; so that motifs and images which relate initially to the hypothesised 'personal' unconscious (in the form of personal stresses and conflicts relating to the biologically adaptive mechanisms of reproduction and aggression) are transformed into motifs of an archetypal nature with the concomitant diminution of psychic phenomena pertaining to the exclusively personal system of the psyche. Jung in fact described the symbol as a "libido analogue", or transformer of psychic energy. "Energy" might, therefore, not be "lost", as is implied in the unstressing concept, but rather transmuted, with the result that it constellates as a transpersonal rather than as a personal motif in fantasy productions.

The hypothesis that practitioners of Yogic meditation would display more active participation in their dreams was confirmed under laboratory conditions (Table 22). No significant differences between the meditation and control groups emerged under home conditions, and when the laboratory and home conditions were combined. The laboratory result is consistent with the salience hypothesis (Section 8.I), which was adduced to explain increased dream recall in the meditation group, in that "dreamer activity" is one of the defining criteria of dream salience (Cohen, 1974; Cohen and MacNeilage, 1974). The finding also provides support for Jung's emphasis on active participation in active imagination, and suggests that this phenomenon generalises to nocturnal

mentation in practitioners of Yogic meditation.

8.5 Methodological Considerations

Two possible methodological criticisms might be raised at this point, and these concern the problem of whether the observed differences between the two groups are more a function of experimenter expectancy and perceived demand characteristics than any real differences between the two populations. The first mentioned possible criticism concerns the problem of whether the meditation and control subjects were treated differentially during the collection of dream reports, recall rate and word count indices. Several considerations mitigate against these confounding factors. In the first instance, the study was designed with a "built-in" control for experimenter bias, in that the experimenter was unaware of which of the two alternate hypotheses, if either, would be confirmed. The fact that the hypotheses of the dream recall and word count investigations and the archetypal hypothesis are mutually exclusive was pointed out in an earlier section (5.0). If experimenter bias had been strongly operative in the data collection procedure, then it is likely that hypotheses 1 and 2 would have been confirmed, not rejected as was the case. The experimenter was therefore unaware of what to expect in terms of subject responses. The second built-in control concerned the stipulation in the design that no data analysis was to be carried out until after the data collection procedure had been completed, so that while the experimenter was running subjects he had no firm idea of developing trends in relation to the alternative hypotheses of the study. A third relevant

consideration is that the experimenter was unaware of the Archetypal/Everyday dream scale at the time of data collection, and since the scale is not found in its specific form in the Jungian literature, the experimenter could not possibly have been aware of its definition of an Archetypal dream. An ideal design in an investigation of this nature could possibly have utilised a 'surrogate' experimenter for the data collection procedure, and 'blind' scoring of the dream reports for recall rate, word count index and modification of content. However, as previously pointed out (Section 4.5.4) the utilisation of a surrogate experimenter does not necessarily provide adequate insurance against disclosure of the hypothesis. Furthermore, since the same experimenter collected and rated the dream reports, it would have been meaningless to have attempted post hoc to rate the dream reports 'blind', since the experimenter was generally aware of which group of subjects had produced the report. Possible experimenter bias in this respect was controlled for by having a sample of dream reports scored 'blind' by another researcher, following the standard inter-scorer reliability procedure. The significant correlations which emerged (Tables 7 and 8) weaken the argument that the experimenter favoured the hypotheses of the dream content investigation.

Two considerations mitigate against perceived demand characteristics exerting an overwhelming influence upon results. In the first instance, the subjects were unaware of the hypotheses of the study. In this regard, and as mentioned in an earlier section (6.1) the physiological aspects of the study were emphasised to the subjects. Furthermore, it was ensured that each subject understood that the investigation

was an exploratory one, and that, since no previous experimental research had been carried out in the area, the outcome was an unknown quantity. The second consideration concerns the complexity of the hypotheses of the investigation, especially that relating to archetypal dream content. Since the subjects were naive with respect to the complexities of Jungian theory, it is unlikely that their "non-conscious" attempts to perform well would have coincided with Jung's and Kluger's conceptualization of the defining characteristics of an archetypal dream. Jungian psychology is still probably a very obscure subject to non-specialists, due to its complexity. As against these arguments there are the anecdotal reports that in the therapeutic situation dream content reflects the biases of the Freudian or Jungian analyst, due to perceived demand characteristics. However, analysis is usually a protracted affair, with the analyst as it were "reinforcing" the patient for producing archetypal symbols or libidinous images in the analytical process. In the present investigation there was no discussion of the dream after it had been reported, in accordance with the format of the Larson interview schedule (Appendix 6), which does not include any discussion or elaboration of dream content, but merely attempts to differentiate between dreamlike and "thoughtlike" nocturnal mental experience. In spite of these arguments, however, it cannot decisively be concluded that perceived demand characteristics did not exert at least some influence upon the results, since it is all but impossible to control for the possible "preconscious" perception by the subjects of cues given subliminally by the experimenter. In order to assess the influence of such factors, a replication of the present investigation is indicated.

8.6 Inter-Subject Variability

A limitation of the present investigation was the lack of control for possible variability between subjects on personality variables. For this reason, a causal relationship between the practice of Yogic meditation and increased dream recall frequency, increased content of reported dreams, increased archetypality in home and laboratory dreams, and decreased sexual content and increased active participation in laboratory dreams, cannot be claimed. On the question of dream recall, Austin (1971) reported significantly higher REM recall for divergent than for convergent thinkers, and although no study has investigated the divergent or convergent characteristics of meditators, it is possible that meditators are more "divergent". Cohen (1974) relates divergent ability to imagery ability on the basis of the finding that REM recall is higher for subjects whose Rorschach scores are high on divergent ability and fantasy predominance (Orlinsky, 1966) and suggests that this relationship is consistent with the finding that frequent recallers tend to be more "creative" (Bone and Corlett, 1968; Scheckter et al., 1965). It is therefore possible that individuals who practice meditation are "exceptional" in a creative sense, but whether this is the result of meditation, or whether such people are attracted to the practice, is unknown. Some support for the possibility that meditators are indeed "exceptional" individuals is forthcoming from an observation made by Lesh (1970) that a group of volunteer Zen meditation subjects displayed significantly higher pretest scores on measures of "openness to experience" and "self-actualization" than a control group. Jung (1945) suggested that creative people have greater

access to the collective unconscious, as is evidenced in the intuitive insights of exceptional scientists, and the archetypal images in the visual and literary arts.

A further related consideration concerns the possibility that the attitudinal variables of introversion and extraversion have some bearing upon the access of consciousness to the unconscious, in the sense that the consciousness of the introvert is more naturally inundated and influenced by the unconscious, whereas the extraverted attitude takes its orientation more from consciousness, which results in a relatively greater dissociation between the two poles of the personality (Jung, 1949 b, p.187). Introverts might conceivably be more attracted by a discipline such as Yogic meditation, and if this were the case a predominance of introverted subjects in the meditation group might possibly have had some bearing upon the results of the study irrespective of whether or not the subjects practiced meditation. Furthermore, various combinations of the functions of thinking, feeling, sensation and intuition, which constitute the personality type of the individual in Jung's psychology, are conceptualized as influencing the relations between consciousness and the unconscious (Jung, 1949 b). However, no experimental research has as yet been carried out on a possible differential response to meditation by individuals distributed over Jung's attitudinal and personality types, and in view of this the possible influence of attitudinal variables and personality typology upon the results of the present investigation must remain an open question.

In relation to the points raised in this section, and from a methodological perspective, it should be emphasised that the present investigation did not attempt to separate the actual practice of the concentrative exercises of Yogic meditation from the general orientation toward experience and the life-style of the practitioner. There is reason to suppose that such a distinction would be simplistic and wholly erroneous in terms of the traditional Yogic conceptualization of what "meditation" actually constitutes, which is more in keeping with Naranjo's (1971) definition of meditation as "the development of a modality of being" (Section 3.0), which is said to constitute a fundamental re-orientation, and in the later stages of the practice, a restructuring of the personality. The results of this investigation do not therefore imply that sitting in a certain prescribed posture and concentrating for two thirty minute periods per day will necessarily facilitate access to the collective unconscious or familiarise the individual with his "greater self". In order to establish such a causal relationship some manipulation of experimental variables would be required. The possibility of training naive subjects in Patanjali's Yoga, and then assessing dream content for archetypality, and the other variables explored in this study could be examined.

It was observed in the introduction to this report that an excess of archetypal material in dreams is not necessarily beneficial for the individual, in that an undue mobility of the unconscious is indicated, which frequently manifests itself in psychopathology, notably psychosis (Jacobi, 1968, p.75). It could therefore be contended that the increased archetypality observed in the meditation group is indicative of

pathology in meditators. Kluger in fact observes that extreme scores (i.e. those rated as bizarre) on the criterion categories of Rationality and Everydayness might indicate pathology (1975, p.40). However, the mean scores of the meditation group approximate to the midpoints of these two scales (Tables I4 and I5), and this finding can possibly be interpreted as suggesting a tendency towards psychological equilibrium and integration in the meditation group, since Jung's compensation-complementation theory of conscious-unconscious relations points to a final condition where neither system of the psyche dominates the other, and where consciousness is not dissociated from the unconscious.

8.7 Yogic Meditation, Active Imagination and Research on Inter-Hemispheric Functioning

The findings of the present investigation can be interpreted within the framework of recent neurophysiological research findings on the differential functioning of the cerebral hemispheres. Experimental investigation suggests that each hemisphere has specialised functions with regard to patterns of awareness. The left hemisphere is specialised for verbal, logical, analytical, abstracting and sequential modes of cognitive functioning, whilst the right hemisphere functions in a non-verbal (visuo-spatial) irrational, symbolic, synthetic and simultaneous manner (Ornstein, 1972; Rossi, 1977). Indications of conflict in hemispheric functioning have been documented (Gazzaniga, 1970, 1973), due to the contrast in their modes of functioning. Western man in particular has tended to emphasise the modes of functioning characteristic of the left hemisphere, at the expense of those of the

right, and Jung identified this over-emphasis as a major source of neurosis (Jung, 1967), in that it induces an excessive one-sidedness in the conscious attitude.

Several authors have viewed dreams as characteristic products of right hemisphere activity (Austin, 1971; Ornstein, 1972; Galin, 1974; Rossi, 1977). Ornstein has argued that the concentrative exercises of Yogic meditation may serve to focus attention on one source of stimulation with the result that the mode of cognitive functioning characteristic of the left hemisphere during the waking state is inhibited, thereby facilitating the mode of functioning characteristic of the right hemisphere.

The inhibition of left hemisphere activity postulated above as the "mechanism" of concentrative meditation would seem to generalise to nocturnal mentation, since a significantly larger proportion of the dreams of the meditation group, as assessed from the standpoint of verbal, rational cognition, approximated more closely to a symbolic, irrational, non-linear and timeless mode of consciousness. The findings also suggest that the dissociation between consciousness and the unconscious was not as marked in the meditation group, since they were better able to recall and report their dreams. This interpretation, which suggests a tendency towards an integration of the verbal and symbolic modes of functioning characteristic of the left and right cerebral hemispheres respectively is consistent with Jung's formulation of the transcendent function, whereby the symbolic products of the unconscious are integrated into consciousness by means of active

imagination (Jung, 1960 f).

The findings of the present investigation might also shed some light upon Jung's distinction between the methods of Yoga and the therapeutic technique of active imagination. It will be recalled that Jung conceptualised Yogic techniques as deliberately strengthening the conscious mind and will, whereas active imagination deliberately weakens consciousness (Section 2.4.4). Their aims were nevertheless conceptualized as identical. It may be speculated that by inhibiting or suppressing mental modifications by means of forced concentration Yogic techniques induce a deliberate and exaggerated one-sidedness in consciousness, which, in terms of Jung's compensation theory of conscious-unconscious relations, would result in a corresponding compensation from the unconscious. If the one-sidedness of consciousness is sufficiently intense, the archetypal 'level' of the unconscious would be constellated. The Yogi, as it were, attempts to eliminate all mental phenomena extraneous to the meditation object from the field of consciousness. Something must of course happen to this inhibited material, and it is possible that it sinks into the unconscious thereby increasing the 'energy charge' of that psychic system. When this constellation of libido becomes sufficiently intense, it manifests in psychic products as an archetypal image. Jung makes the same point in his discussion of Zen meditation. He writes: "Now if consciousness is emptied as far as possible of its contents, they will fall into a state of unconsciousness, at least for the time being. In Zen, this displacement usually results from the energy being withdrawn from conscious contents and transferred to the conception of 'emptiness',

or to the Koan. As both of these must be static, the succession of images is abolished, and with it the energy which maintains the kinetics of consciousness. The energy thus saved goes over to the unconscious and reinforces its natural charge to bursting point. This increases the readiness of the unconscious contents to break through into consciousness ... The contents that break through are far from being random ones ... The unconscious contents bring to the surface everything that is necessary in the broadest sense for the completion and wholeness of conscious orientation" (1969 d, pp.551-552. Emphasis added). In Yogic meditation therefore, since the "free play" of psychic energy is denied the psyche during the inhibitory exercises, fantasy activity (i.e. "The succession of images") may occur at a time when the inhibitory exercises are not being practiced. The findings of this investigation suggest that it occurs during the REM phase of sleep where it emerges as an increase in archetypal content. This deduction is supported by Jung's contention that "The more one-sided (the) conscious attitude is, and the further it deviates from the optimum, the greater becomes the possibility that vivid dreams, with a strongly contrasting but purposive content will appear as an expression of the self-regulation of the psyche" (1960 g, p.253).

Active imagination on the other hand would appear to eliminate all one-sidedness or "directedness" in consciousness, by weakening it, with the result that the already high energy charge in the unconscious, which has built up as a result of too great a one-sidedness in consciousness, is able to inundate the field of the latter psychic system during the meditation procedure. Since such a meditation session

consists essentially of the observation of and active participation in fantasy configurations, which are psychic in nature, the experience can usually be described and communicated to the analyst for amplificatory purposes. Detailed descriptions of fantasy configurations are, however, generally not forthcoming from the accounts of practitioners of Yoga, who emphasise the ineffability of their meditative experiences. There are some exceptions to this, chiefly with regard to practitioners of visualisation methods, who describe "hallucinatory" experiences (Yogananda, 1972; Muktananda, 1976; Krishna, 1971). In active imagination, therefore, the collective unconscious would seem to be constellated during meditation, where it is allowed to proceed as it were with an absolute minimum of interference from consciousness, i.e. spontaneously. The effect of this procedure, observed Jung, was a decrease in the frequency and intensity of dream material, due to the depotentialisation of the unconscious. In Yoga the collective unconscious is also constellated, but this would appear to follow a procedure whereby the spontaneously occurring activity of this system of the psyche is forced to conform to the symbolic properties of a concentration object which has been deliberately selected for its archetypal associations. The result of this practice, as the findings of this study suggest, is that the spontaneity denied the psyche manifests itself as the archetypal REM dream. The above reasoning is potentially empirically testable, in the sense that the training of individuals in active imagination should result in a significant decrease in archetypal dreams whilst the training of individuals in Patanjali's Yoga should confirm the findings of the present investigation.

In terms of Jungian theory, both active imagination and Yogic meditation concur in terms of aims. This can be conceptualized as constituting the facilitation of awareness on the part of consciousness of the collective or transpersonal system of the psyche. Active imagination, however, would seem to take as its starting point a condition of dysfunctional dissociation between subject (consciousness) and object (unconscious), and attempts to reconcile these opposites on a new and perhaps more 'advanced' level of experience. Yoga appears to take as its starting point a condition of unconscious unity between subject (consciousness) and object (unconscious), and attempts to provoke a dissociation between these opposites so that the reconciliation can take place consciously on the new and perhaps more 'advanced' level of experience. Jung writes, "If the conscious attitude were only to a slight degree 'directed', the unconscious could flow in quite of its own accord. This is in fact what does happen with all those people who have a low level of conscious tension, for instance primitives. Among primitives no special measures are needed to bring up the unconscious ... those people who are least aware of their conscious side are the most influenced by it, but they are unconscious of what is happening" (1960 f, pp.78-79).

9.0 CONCLUSIONS

The recent increase in research on meditation coincides with a revival of psychological and psychiatric interest in the nature and function of mental imagery and imaginative processes in psychotherapy. This development has been documented by Singer (1974) in an innovative account which strives to achieve a synthesis of the apparently diverse theoretical underpinnings of a wide variety of psychotherapeutic methodologies employing imagery techniques including, among others, classical and neo-Freudian psychoanalysis, Gestalt therapy, transactional analysis and behaviour modification approaches. It is significant that Singer locates in European studies of imagery, such as those of Desoille, Leuner and Fretigny and Virel, a major source of this revival and that a pivotal role is ascribed to Jung's technique of active imagination in the historical development of this movement (Singer, 1974, pp.31-33). A highly relaxed physiological state is considered necessary for the production of vivid imagery by many of the psychotherapies utilising imagery techniques. Experimental evidence indicates that meditative techniques induce a state of relaxation, as might be predicted from the steps outlined by Pātanjali which are designed to reduce proprioceptive input by means of Yogic postures (āsanas), to reduce breathing rate to approximate that experienced during sleep (pranāyāma) and to reduce sensory stimulation of the brain (pratyāhāra) whilst nevertheless maintaining a state of alert awareness (Eliade, 1969). It is noteworthy that the induction of the hypnagogic state in some respects parallels these steps; this 'twilight' state at the interface between wakefulness and sleeping is currently attracting

considerable attention in experimental psychology. A critical review of the literature (Schacter, 1976) indicates that hypnagogic images are both spontaneous and autonomous; they may emerge abruptly into consciousness with a clarity, vividness and detail equalling, or even surpassing the sensory impressions of the waking state. The images may be so vivid as to assume an "hallucinatory" character, being localised in external rather than internal space. These experiences are generally of brief duration, although some authors note that hypnagogic images may develop from meaningless flashes of colour (entoptic phenomena) into complex scenes, resembling dreams in their bizarreness, so that, as the state deepens, they become more impersonal and novel and " ... less amenable to conscious control" (Schacter, 1976, p.466). The sometimes grotesque sequences are not readily explicable in terms of past experience, suggesting an alien quality, which may provoke fear, at least in children. The autosymbolic nature of the imagery is most important; abstract concepts, or even bodily states, may be represented by concrete images in symbolic form. Finally, there is a suggestion that increased experience of imagery of this kind might, in itself, be of therapeutic benefit.

The above characteristics of hypnagogic imagery are reminiscent of Jung's descriptions of the archetypal images encountered during active imagination and of their therapeutic effect when integrated into consciousness. Moreover, an examination of Jung's writings suggests that in active imagination entry may be made into a state of consciousness sharing many elements in common with the hypnagogic state. Indeed, Jung suggested that active imagination can be initiated during the

hypnagogic state: "As a rule, such a fantasy picture will actually appear - perhaps hypnagogically ... " (Jung, 1960 f, p.83). However, both Yogic meditation and active imagination are distinguished from the normally passive experience of hypnagogic imagery at sleep. As previously discussed, active imagination is characterised by active participation in the dramatic sequence of images, whilst Yogic meditation is characterised by an active suppression of the succession of mental contents. Thus it would appear that whereas there is indeed a common point of departure in the induction of these states, the outcome of the two techniques, as has been speculated above, might be expected to have differential effects upon the content of nocturnal dreams.

Quite apart from these speculations however, the findings of the present investigation support the notion that dream analysis provides an index of psychological adjustment, and suggest that the practice of Yogic meditation is associated with the growth and development of the personality. It can be concluded that the manifest content of dreams may indeed provide a useful index for assessing theoretical claims concerning the clinical implications of meditational practices.

APPENDICES

1. The Physical Aggression Scale.
2. The Verbal Aggression Scale.
3. The Manifest Sexuality Scale.
4. The Hedonic Tone Scale.
5. The Active Participation Scale.
6. The Larson Interview Schedule.
7. Mythological Parallel Rating Procedure.

APPENDIX IThe Physical Aggression Scale

0. None.
1. Hitting in fun, like hard slap on back. Trivial property destruction. Any case where actions not ostensibly involving aggression seem to you to involve it.
2. Threats and counterthreats by gesture, posture, word. Carrying a weapon, being in war, if no specific aggression cited. Accidental and extensive damage of property of others. One isolated bit of defensive behaviour - one action of restraint (press: being apprehended for purposes of restraint, confinement only).
3. Perception of hostile threat, but minimization or denial of same. Example**: "You might think that he'd hit her but ..." or (press) "You might think he'd be in danger but ...", or accidental killing or injury to other, not S-caused is scored as need for S if it is indicated that he is guilty about it. Mild type of episode, e.g. one slap. Or contemplation of accidental death or terminal illness of another person or self; or accidental non-fatal injury to others/self; or defensive role in aggressive sequence - more than one isolated act; or intentional and extensive destruction of property of others/self.
4. Perception of possibility of a 6 act, but denial. Example**: "You

** Perception but denial of vague, unspecified threats - he might do something bad or something bad might happen to him.

might think that he would kill her, but he is actually ... " etc.
Or attack upon others: intentional, offensive, violent, though
some provocation has been offered; or accidental killing of
other or self (press includes being killed by disease and natural
forces as well as being killed by another person by accident).

5. Contemplation of or threat of committing an act listed as 6; or
any major incident of aggression which seems quite unprovoked.
Particularly violent episode, sustained in character.
6. Killing another person, intentionally, whether described in gory
detail or not (includes suicide).

APPENDIX 2The Verbal Aggression Scale

0. None.
1. Mild teasing, mocking or you sense some hostile-type tension in conversation with other.
2. Derogation of objects associated with person. Example: "Your car is a mess." (Some objects, e.g. clothing, may be so much a part of the self that an attack on them is more properly considered an attack on the person wearing them).
3. Derogation of persons associated with a person. Example: "Your mother is a dope." Score 3 if incident is mild, without any apparent ill-will etc.
4. Direct derogation of behaviour or beliefs of other. In one-sided form, "criticisms", etc. In two-sided form, "arguments", etc. (Not so malicious or ego-directed as 5 and 6.)
5. Milder than 6 but stronger than 4, in that abusiveness is still evident as is focus of attack on other as a person. Score 5 if extended, particularly violent, etc.
6. Extreme derogation of other as person; abusive, malicious.

APPENDIX 3The Manifest Sexuality Scale

0. None.
- I. Sexual feeling, interest, concern, ascribed to others with no overt sexual behaviour, or symbolic sexual behaviour portrayed in others. A representative but not inclusive list of sexual symbols follows. Score if these or other symbols can be considered, on the basis of dream context, as 'probably' sexual in any particular case.

Male Symbols

pole, key, pen, rifle, gun, sword, cigarette, cigar, pipe, snake, horse, dog, tree, conical or erect figures, etc.

Female Symbols

enclosure, containers, such as box, door, window, vase, glass, pot; kitten flower, round open figures, openings, etc.

Interactional Symbols

Staircase activity - up/down, elevator up/down, playing instrument, any back and forth repetitive motion, wild/crazy driving in car as when out of control, bumping, contact symbols; soil, infect; shoot with gun, etc.

2. Sexual feeling, interest, concern ascribed to self with no overt sexual behaviour, or symbolic sexual behaviour portrayed in self.
3. Mild, 'erotic' behaviour (dating, flirting, teasing, being with - in other than strict business-like setting - playing with, joking with, having fun or pleasurable casual social interaction with,

member of opposite sex of approximately equivalent age) ascribed to others.

4. Mild 'erotic' behaviour ascribed to self.
5. Strongly 'erotic' behaviour (spending night with, sleeping with, having intercourse with, petting, kissing, fondling, grabbing, touching, bumping, or having any bodily contact with, going to bed with, in bedroom or sleeping quarters of, member of opposite sex of approximately equivalent age; pregnancy; implicitly or explicitly having babies or marrying (but not necessarily being a parent or being married)) ascribed to others.

Note: sleeping in experiment is not counted, unless some erotic touch is added to the typical laboratory situation.

6. Strongly 'erotic' behaviour ascribed to self.

APPENDIX 4The Hedonic Tone Scale

1. Very pleasant.
2. Moderately pleasant.
3. Slightly pleasant.
4. Neither pleasant nor unpleasant; can't tell.
5. Slightly unpleasant.
6. Moderately unpleasant.
7. Very unpleasant.

APPENDIX 5The Active Participation Scale

1. Dreamer is not present in dream; seems to be exerting no control over its action; is not on scene even as passive spectator.
2. Dreamer is present in dream only to extent of being passive spectator.
3. Dreamer is present as participating character but his role is entirely or almost entirely passive (recipient or others' actions rather than initiator).
4. Dreamer is present as participating character in moderately active role; not the overriding determiner of dream events, however.
5. Dreamer is present in active role and seems to be determining the character of dream events to a major degree.

APPENDIX 6

The Larson Interview Schedule

What was going through your mind just before I called you?

(If something) Would you tell me about it?

(Spontaneous report)

Was there any visual imagery?

(If yes) Would you please describe it?

At the time you had these images, did you feel you were really seeing them portrayed, or were you aware that it was just a mental image passing through your mind?
(i.e. did it seem real, or did it really seem to be happening?)

Is there anything else?

OK, thank you, you may go back to sleep now.

(If nothing, don't remember, or don't know)

Would you think for a moment or so and see if anything comes back to you?

Can you remember anything now?

(If something) (If nothing)

OK, would you say that you felt there was a mental experience but you forgot it, or did it seem that there just wasn't anything at all to recall?

OK, thank you, you may go back to sleep now.

(No), OK, is there anything else?

Thank you.
You may go back to sleep now.

APPENDIX 7Mythological Parallel Rating ProcedureDream report:

" ... I was looking in a mirror, sort of incredible, and as I stood back there was an image of myself and then another image behind it, and then another image that was smaller than the other two. There were three images going back into the glass, and the small one was very small and far away, and quite separate from the others, and then I was looking at my arms particularly, and as I clenched them the veins stood up, and my skin in the mirror was very brown ... "

Mythological Parallel:

According to J.E. Cirlot (1973) the motif of the mirror is a common one in mythology, legend and folklore, where "it is frequently invested with a magic quality - a mere hypertrophic version of its fundamental meaning - and serves to invoke apparitions by conjuring up again images which it has received (p.211). According to Jung, the image of the mirror can symbolise the self "which reflects the subjective consciousness of the (individual) and also shows him as a transcendental whole" (1969 e, p.281). Cirlot (1973) links the image of the mirror to the Narcissus myth, and comments, "The cosmos appears as a huge Narcissus regarding his own reflections in human consciousness" (p.210). The dreamer's individual consciousness appears separated into 3 parts, which number symbolises "spiritual synthesis" and "represents the solution of the problem posed by dualism" (Cirlot, 1973,

p.232), and furthermore, the three images of the dreamer in the mirror, together with the dreamer himself make up the number 4, which, according to Jung, is a common numerical symbol for the unitive quaternity motif, and relates to the "problem of the fourth" in the Christian dogma of the Trinity (1969 a, p.164). The images of the trinity and quaternity are understood by Jung to refer in symbolic form to the four functions of the personality (1948, p.189).

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