PSYCHOANALYTIC LEARNING THEORY:
PRIMARY AND SECONDARY MODES OF THOUGHT, IMPLICATIONS FOR KNOWLEDGE AND MIND

by

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ABSTRACT

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Psychoanalytic Learning Theory:
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The purpose of this study is to examine the role of the unconscious aspects of cognition in the acquisition of knowledge and the development of thought. The psychoanalytic theory of the unconscious forms the theoretical and empirical basis for an investigation of continuity between instinctual affective components of intelligence, and abstract conceptual thought. Implications for education and learning theory are discussed, and a critique of the over-emphasis on rationality and conscious verbal thought in these fields is thus formulated. It is the opinion of the author that a valid theory of cognition and learning must unify mind and body, emotion and reason, and that psychoanalysis provides a viable theoretical framework for such an attempt.

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INTRODUCTION

This study is intended to examine the role of the unconscious aspects of mental activity in the structuring of reality and the acquistion of knowledge. It aspires to be a basis for a unified epistemology which can encompass physiological, instinctual, and emotional components of the human mind as well as abstract conceptual thought processes. Since so comprehensive an aim can certainly not be achieved within the scope of a single project of limited length, I have focused my present discussion on one discipline, psychoanalysis, as a source of both empirical and theoretical formulations concerning unconscious processes. Freud's writings, to a greater degree than other existing theories of the mind, posit a continuity or relatedness among mental phenomena which are radically different in terms of logical structure. Both during development and after relative maturity has been reached, thought is not an autonomously objective record of the external environment, but instead is pervaded by the subjective element of desire.

The consistent integration of objective and subjective into a theory of mind can be of importance not only for philosophy but also for learning theory and education. The contribution of a psychoanalytic learning theory to education rests primarily with the concept of unconscious mentation. Previous pedagogical theory and practice, at least in the 1900's, has tended to

accept a pragmatic empiricist definition of intelligence. Verbal behavior and conscious thought have been identified with mentation in general. Unconscious processes have been identified rather simplistically as the irrational, and the avowed aim of the classroom (and the assumed aim of development) is to replace the child's relatively irrational mode of reasoning with a logical (conscious) mode. It is certainly the goal of development to reach a realistic relation to the environment through stable mental activity which encompasses the principle of cause and effect, the ability to abstract universal principles from particular facts, and communicative skills. However, according to psychoanalysis, these attributes of rational thought have their roots in instinctual and affective motivation; arise from innate organ and motor modes of operation;[1] and are continuously interacting with needs, preconscious and unconscious trains of thought, and drive-oriented perceptual structures.

Freud considered conscious activity to be a derivative of the unconscious, a superstructure which never replaces but merely "overlays." It is the idea of the autonomy of rational thought, a major tenet of Western philosophy, that he thus brings into question. Thought education has undoubtedly been influenced by Freud and others, most manifestations of this influence have been superficial, for example, the introduction of child psychology courses in teacher training, school counsellors, and personality testing. That is to say, modern liberal

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[1] That is, ingesting and rejecting, retaining and expelling, form the basic models for later mental operations. See. H. Hartmann, Ego Psychology and the Problem of Adaptation (New York: International Universities Press, Inc., 1958).

education may acknowledge the importance of motivation for general behavior, but it has thus far failed to incorporate into its theoretical basis the affective, conative, i.e. unconscious, processes as essential to *cognition itself*.

The primary object of my interest is not the unconscious per se, whether as an entity or as a descriptive adjective, but is rather the unity of conscious and unconscious mental acts, the interdependence of the two spheres, and the resulting implications for the genesis of concepts, language, and logical thought. Throughout the paper, unconscious cognition will be generally dealt with in terms of the primary process, and conscious thought in terms of the secondary process, as conceived of by Freud; however, the two will be found to blend and interpenetrate, forming a continuum of conscious and unconscious states which exhibit the true range and complexity of thought forms.

I realize the limitations of both the aim and the achievement of my study. It actually forms the basis for a much broader synthesis involving neurophsyiology, linguistics, and anthropology, as well as psychology and education. Psychoanalysis offers a theoretical approach which potentially informs each of the above fields and relates it to the others. However, psychoanalytic metapsychology must first be more systematically formulated and the relevant concepts clarified. The present paper is to a great extent taken up by such an effort, with the focus upon the primary and secondary processes and their relationship. My first chapter will trace Freud's various usages of the word "unconscious" and will establish my own approach to

the concept via the formal properties of the primary process. Secondly, I will undertake a careful examination of the primary process; proceed in the third chapter with a discussion of the genesis and function of the secondary process, placing particular emphasis on the work of David Rapaport; and in Chapter 4, discuss in detail the interactions between primary and secondary modes. Chapter 5 will conclude with the implications of such interactions for epistemology and a theory of mind, and a discussion of their related significance for education and learning theory.

An even closer integration of these concepts with philosophy and learning theory is a necessary sequel to my discussion.

CHAPTER ONE

FREUD'S CONCEPT OF THE UNCONSCIOUS

It is sometimes said that Freud "discovered" the unconscious; this, of course, is not literally true as has been demonstrated by historical treatments of the concept.[1] His therapeutic predecessors, in particular Janet and Charcot, made use of the word in a descriptive sense in their research on hysteria and hypnosis. Literature also contains a sophisticated awareness of unconscious motivations, and philosophers such as Nietzsche, Schopenhauer, Schelling, and von Hartmann dealt at least implicitly with this force in human nature. Despite this, psychoanalysis remains the first systematic treatment of the concept, and the one most relevant to learning theory.

Freud claimed early in his career that his intention was ". . . to furnish a psychology that shall be a natural science . . ."[2] He did not limit the scope of psychoanalysis to a therapeutic technique for the description and treatment of pathology; during his years of active productivity, Freud created a theoretical

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[1] See, for example, H. Ellenberger, The Discovery of the Unconscious (New York: Basic Books, 1970); L.L. Whyte, The Unconscious Before Freud (London: Tavistock Publications, 1959).

[2] S. Freud, The Standard Edition of the Complete Psychological Works of Sigmund Freud, ed. and trans. James Strachey, vol 1: Project for a Scientific Psychology (London: Hogarth Press and the Institute of Psycho-Analysis, 1953-74), 24 vols. (Hereafter the Complete Works will be cited as Standard Edition.)

framework for a general psychology of very broad scope. However, his writings do not equally develop all areas of psychological concern. Some topics which in the twentieth century have acquired great importance are given relatively little consideration by Freud.

For example, any complete psychological system must by definition include a theory of learning, but psychoanalysis has never explicitly formulated such a theory. Since Freud's death there has been extensive work in the area of ego psychology, begun by Anna Freud and extended by Heinz Hartmann, Erik Erikson and others. This trend has 1) emphasized the ego's relation to reality, and 2) has employed a developmental approach in the study of the ego. Both of these revisionary emphases have had the effect of increasing the importance given to the organism/ environment relationship and of exposing the theoretical and heuristic complexity of psychoanalytic metapsychology, which had previously been obscured by Freud's overriding interest in the instincts.

There have also been isolated attempts to integrate psychoanalysis with various points of view; for example, Mowrer, and Dollard and Miller, have published influential studies which identified classical conditioning as the mechanism underlying the formation of neuroses. This conclusion was drawn from animal experimentation which established "Freudian mechanisms" or neuroses in the subjects through subjecting them to severe conflict situations.[3] More recent efforts are Peterfreund's

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[3] O.H. Mowrer, Learning Theory and Personality Dynamics; Selected Papers (New York: Ronald Press Co., 1950); J. Dollard and N.E. Miller, Personality and Psychotherapy: An Analysis in Terms of

book on psychoanalysis and information processing[4] (see also Arlow and Brenner)[5], and Greenspan's synthesis of operant conditioning and metapsychology.[6]

However, there has been no exhaustive treatment of learning from within the psychoanalytic framework. As David Rapaport has noted, such a treatment may well be the most important task presently facing psychoanalysis.[7] Such a synthesis may require the amalgamation of theory with experimental data comparable to Piaget's research with children, but theoretical systematization within psychoanalysis itself is also crucial. Though I cannot hope to provide an exhaustive treatment of the topic, this paper will attempt to extract from psychoanalysis concepts relevant to learning theory, particularly those pertaining to the unconscious processes.

Rather than presenting a series of comparisons with, for example, Skinner's behaviorism, Hebb's neural theory, and various developmental formulations, I will limit discussion to a delineation

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Learning, Thinking, and Culture (New York: McGraw-Hill, 1950).

[4] E. Peterfreund, Information, Systems, and Psychoanalysis. An Evolutionary, Biological Approach (New York: International Universities Press, Inc., 1971).

[5] J.A. Arlow and C. Brenner, Psychoanalytic Concepts and the Structural Theory (New York: International Universities Press, Inc., 1964).

[6] S.I. Greenspan, A Consideration of Some Learning Variables in the Context of Psychoanalytic Theory. Toward a Psychoanalytic Learning Perspective (New York: International Universities Press, Inc., 1975), Psychological Issues, Monogr. 33.

[7] D. Rapaport, The Structure of Psychoanalysis. A Systematizing Attempt (New York: International Universities Press, Inc., 1960), Psychological Issues, Monogr. 6.

of relevant psychoanalytic concepts and their roles in knowledge acquisition. The focus of interest will be on the genesis of secondary process thought (rational, causal) from primary process thought (alogical), and on their interpenetration. Genesis of ideation and concepts, memory organization, language acquisition, creativity, and perception will be examined in the light of the psychoanalytic theories of motivation and affect. Thus, I will try to unite dynamic, economic, structural, genetic, and adaptive considerations to build a metapsychological approach to the problem of learning.[8] Data generated by other theorists calls for further research designed to examine the empirical validity or limitations of psychoanalysis. Comparisons with Piaget in particular are promising, and I will mention him briefly. The large body of data on perception provided by the Gestaltists and others is also relevant but cannot be included here.

Early Formulation of the Unconscious: The Topographic Theory

Let me now briefly trace Freud's thought on the unconscious. In Freud's original work with Breuer on hysteria (1893-95), the

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[8] Dynamic considerations are those concerned with psychological forces and their conflicts; economic, a semi-quantitative approach to psychological energy; structural, propositions of enduring psychic organizations with particular functions; genetic, phenomena related to origin and development; and adaptive, the relationship of organism to environment. An approach which includes all of these considerations is a metapsychological one. See D. Rapaport and M.M. Gill, "The Points of View and Assumptions of Metapsychology," International Journal of Psychoanalysis 40 (1959):153-62.

word unconscious was used to define a certain quality of mental activity and was roughly synonymous with "unaware." The existence of non-avowed or unrecognized ideas was first postulated from observation of hysterical symptoms, for example, a strong emotion such as crying or screaming exhibited by a patient who denied any knowledge of its cause.[9] The curative effect of recalling forgotten incidents of a traumatic nature also suggested that ideas were *actively* influencing behavior even while not within the range of awareness. Such clinical data required a hypothesis which would link apparently irrational actions to some sufficient psychological cause in a lawful manner. This was necessary to sustain the principle of psychic determinism to which Freud was committed as a result of his neurological training. In his Project for a Scientific Psychology he actually attempted to formulate a neurological model of consciousness which would have obviated the need for postulation of unconscious psychological processes.[10] Conceivably, it could have provided Freud with the explanatory links between cause and effect, motivation and behavior. However, neurophysiology was not sufficiently advanced to support so rigorous a framework, and therapeutic practice called for psychological explanation. Hence his postulation of unconscious ideas.

His publication of The Interpretation of Dreams introduced

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[9] J. Breuer and S. Freud, Studies on Hysteria (1895d), Standard Edition, vol. 2, p. 19.

[10] S. Freud, "The Unconscious," (1915e), Standard Edition, vol. 14, p. 163.

an extension of the concept of the unconscious from two points of view, the dynamic and the topographic. The dynamic uncoscious was postulated to be composed of the material concerning sexual and aggressive drives which was not simply outside focal awareness but had been repressed, and was a a consequence unavailable to awareness. To emphasize this new distinction, Freud divided the unconscious into two parts, its new subsidiary being the preconscious which was moreeasily accessible to awareness.

Topographically, Freud described the mind as a reflex arc for the discharge of excitation, with activities normally proceeding from the perceptual to the motor area. Stimuli, whether derived internally from instincts or externally from the environment, moved from the unconscious through the preconscious to consciousness.[11] The unconscious proper was designated as the repository of 1) instinctual representatives; 2) infantile wishes; 3) repressed memories and thoughts; 4) archaic racial remnants (symbols).

He further substantiated the unconscious by ascribing to it a mode of operation distinct from that of waking thought, the primary process; an observation drawn from detailed and prolonged analysis of his own and his patients' dreams. Speaking of an unconscious wish, he says, "From this point onward the train of thought is subjected to a series of transformations which we no longer recognize as normal psychic processes. . . ."[12] These transformations are brought about by condensation, or compression

[11] Idem, The Interpretation of Dreams (1900a), Standard Edition, vols. 4 and 5, pp. 488-92.

[12] Ibid., p. 530.

of several ideas into one, and by transference or displacement of one idea to another. These ideas may be very loosely associated and even contradictory ideas do not mutually exclude one another but can be maintained simultaneously.[13] Thus we are given two new characteristics of the unconscious: loose and unstable associative sequences, and an absence of logic (i.e., negation of contraries).

Economically, or in terms of mental energy, the distinction between conscious and unconscious was formulated first by Breuer, and despite fluctuations in terminology, it remained basically unchanged throughout Freud's writings. Using the neurological terminology which also appeared in the Project for a Scientific Psychology, Breuer suggested that there are two states of psychic energy, ". . . in waking life these paths (nerve fibers) are in a state of tonic excitation. . . . this intracerebral excitation is what determines their conductive activity, and the diminution and disappearance of that excitation is what sets up the state of sleep."[14] Freud also utilized the concepts of bound (tonically excited) energy and free energy which are characteristic of the waking and the unconscious state, respectively. (The unconscious state is, of course, extended to cover much more than the condition of sleep.) Conscious thought is made possible by the inhibition (binding) of instinctual discharge; conversely, the primary process is dependent upon mobile

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[13] Ibid., p. 530-31.

[14] J. Breuer and S. Freud, Studies on Hysteria, p. 30.

energies.

Subsequent publications, in particular "A Note on the Unconscious in Psychoanalysis" and "The Unconscious" provided further clarification of Freud's usage of the concept "unconscious." The earlier paper gave a long and careful justification for his hypothesis of unconscious processes and enumerated the various ways in which he had previously used the term. He first defined unconscious as synonymous with "latent" in a passage I here quote in full:

> A conception--or any other psychical element-- which is now present to my consciousness may become *absent* the next moment, and may become *present again*, after an interval, unchanged, and, as we say, from a memory, not as a result of a fresh perception by our senses. It is this fact which we are accustomed to account for by the supposition that during the interval the conception has been present in our mind, although *latent* in consciousness. In what shape it may have existed while present in the mind and latent in consciousness we have no means of guessing.
>
> As for latent conceptions . . . let them be denoted by the term 'unconscious.'[15]

This definition obviously includes what has been called the preconscious and contains no indication of the dynamic character of the unconscious proper. The blunt admission of ignorance concerning the actual state of latent content is a measure of how fully the neurological model has been supplanted by a psychological model of the mind. Freud defends the psychological nature of unconscious material against ". . . the philosophical objection that the latent conception did not exist as an object of psychology, but as a physical disposition . . ." He asserts that this

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[15] S. Freud, "A Note on the Unconscious in Psychoanalysis" (1912g), Standard Edition, vol. 12, p. 260.

merely makes the error of identifying conscious with psychical and that ". . . it is clearly at fault for denying psychology the right to account for its most common facts, such as memory, by its own means."[16]

Post-hypnotic suggestion and hysterical symptoms are cited as evidence or indirect proof that unconscious ideas exist, and not only exist, but are active. This introduces the dynamic quality of such material and a distinction, this time betwen foreconscious and unconscious, is drawn. To account for this split in the unconscious, Freud postulates that,

> Unconsciousness is a regular and inevitable phase in the processes constituting our psychical activity; every psychical act begins as an unconscious one, and it may either remain so or go on developing into consciousness . . . The distinction between foreconscious and unconscious is not a primary one, but comes to be established after repulsion has sprung up.[17]

Here Freud introduces a crucial relationship, that between repression (repulsion) and unconsciousness. It was also mentioned in The Interpretation of Dreams, and it is the nodal point at which Freud's theory of the instincts, his theory of defense, and ego formation, join with the theory of the unconscious. In fact, it was precisely this close interrelationship that eventually made necessary the formulation of the structural scheme (id, ego,

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[16] Ibid., p. 260. In other publications he defends a kind of psycho-physical monism which cannot be discussed here. See R.C. Solomon, "Freud's Neurological Theory of Mind," in Psychoanalysis Scientific Method and Philosophy. A Symposium, ed. S. Hook (New York: New York University Press, 1959); see also T. Nagel, "Freud's Anthropomorphism," also in S. Hook. He interprets Freud as saying 1) every conscious or unconscious mental process is a physical process, and 2) consciousness is not an effect of the physical process but an intrinsic property.

[17] Ibid., p. 264.

superego), and eliminated the systematic use of unconscious as a substantive noun. The systemic significance of the unconscious is introduced on the last page of "A Note on the Unconscious in Psychoanalysis" as the third and most important meaning of the concept, the first meaning having been the descriptive (latent = unconscious), and the second, the dynamic usage discussed above.

In "The Unconscious" Freud again defended the concept of the unconscious as necessary and legitimate; necessary because,

> . . . the data of consciousness have a very large number of gaps in them . . . These include not only parapraxes and dreams in healthy people, and everything described as a psychical symptom . . . our most personal daily experience acquaints us with ideas that come into our head we do not know from where. . . . All these conscious acts remain disconnected and unintelligible if we insist upon claiming that every mental act that occurs in us must also necessarily be experienced by us through consciousness; on the other hand, they fall into a demonstrable connection if we interpolate between them the unconscious acts which we have inferred. A gain in meaning is a perfectly justifiable ground for going beyond the limits of direct experience.[18]

Its legitimacy he argued by analogy; that is, that our assumption of a consciousness in another person is a process of inference which is no more obvious or empirically defensible than an assumption of unconscious processes in the mind.

He also discussed at length the economic characteristics of the unconscious. I have already stated that the mode of operation in the unconscious utilizes an uninhibted flow of mental energy,[19] while the conscious process appears to impede this flow. This,

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[18] Idem, "The Unconscious," p. 167. See T. Nagel, "Freud's Anthropomorphism," for an argument supporting this contention.

[19] See the following chapter for a more detailed examination of the concept of mental energy.

however, does not explain how a perception or a memory can become unconscious or pass from the latent state into consciousness. To understand this, one must return to Freud's basic model of the mind as a reflex arc designed to discharge excitation arising from stimulation. In "Formulations on the Two Principles of Mental Functioning," he says, "The sovereign tendency obeyed by these primary processes is easy of recognition; it is called the pleasure-pain (lust-unlust) principle, or more shortly the pleasure principle."[20]

The nucleus of the unconscious is made up of wishful impulses which seek to discharge a quantity of energy (cathexis) and have been prevented due to repression. Repression is also an energic concept and its operation is described thus: any objectionable idea is withdrawn from consciousness by losing its attention cathexis (endowment of neutral energy or force proceeding from the ego). However, it retains a cathexis or energy quantum from the unconscious impulse with which it is associated; quite plainly, this instinctual energy could cause the idea to rise to conscious intensity repeatedly and require the act of repression to be repeated continually. Thus it became necessary for Freud to postulate a counterforce (anticathexis) which semi-permanently blocks or inhibits the idea from entering consciousness. (The question of the source of this opposing energy and of the ego's neutral cathexis will be taken up later.)

As is evident in the preceding paragraph, the economic

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[20] S. Freud, "Formulations on the Two Principles of Mental Functioning" (1911b), Standard Edition, vol. 12, p.

approach to the unconscious supplemented the topographic or anatomical approach. Freud had already expressed reservations concerning the spatial imagery of the reflex arc; because of its direct derivation from neurology, he feared it might be taken literally. Speaking of the passage of material from the unconscious to the conscious state, he asked,

> . . . are we to suppose that this transposition involves a fresh record--as it were, a second registration--of the idea in question, which may thus be situated as well in a fresh psychical locality, and alongside of which the original unconscious registration continues to exist? . . . every attempt . . . to discover a localization of mental processes, every endeavour to think of ideas as stored up in nerve cells . . . has miscarried completely. The same fate would await any theory which attempted to recognize, let us say, the anatomical position of the system Cs. . . . as being in the cortex, and to localize the unconscious processes in the subcortical parts of the brain. . . . Our psychical topography has for the present nothing to do with anatomy.[21]

It is apparent that the transition from conscious to unconscious does not involve actual movement or duplication of memory traces, but is to be conceived of as a change in a state of energy.

Let me now summarize the characteristics of the unconscious thus far established by Freud. Its contents are instinctual drives, repressed memories and wishes (particularly of infantile derivation), and, in the preconscious, thoughts which are latent but temporarily outside focal awareness. Economically, its energy is mobile and presses for complete discharge of excitation (i.e., follows the pleasure principle). Topographically, it is the system furthest removed from reality, which is an alternate way of stating that the pleasure principle dominates. Dynamically,

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[21] Idem, "The Unconscious," pp. 174-75.

the contents of the unconscious constantly oppose the inhibition of the ego and never lose their compelling quality. (Hence they are spoken of as timeless). Unconscious wishes or tendencies are exempt from mutual contradiction; their ideational representatives (ideas, affects) do not follow the laws of logic.

However, a lack of realism does not diminish the importance of the unconscious for conscious thought. It is not conceptualized as a "vestigial organ" which is replaced during the process of development. Its contents maintain a ubiquitous influence over the preconscious and are influenced reciprocally to a certain extent. Of great importance are representatives of reality in the form of defenses and the aggressive impulses of the superego that become unconscious. It receives contents from preconscious thought; for example, fantasies, which are highly organized according to the secondary process. Preconscious thought receives from the unconscious what Freud calls derivatives, usually ideas which are associated loosely with a wish or a drive, and which can reach consciousness and influence ongoing thought. From this point of view, behavior can be viewed as arising from a complex motivational hierarchy in which a conscious derivative motivation will be related genetically to a more primitive and unconscious one, and that motivation will be related to one even more primitive and unconscious.

The importance of unconscious processes for conscious thought is repeatedly stressed by Freud. In The Interpretation of Dreams there is a passage which illustrates the interaction of the two.

> It can be shown that we are able to reject only those directing ideas which are known to us, and that with the cessation of these the unknown--or, as we inexactly say, unconscious--directing ideas immediately exert their influence, and henceforth determine the flow of the involuntary ideas.[22]

This infers the existence of an ongoing chain of thought which has a direction and a goal but is not consciously guided; yet it will direct and motivate thought given the absence of a conscious shaping of thought. There are indications that unconscious thought-trains influence mentation constantly; ideas that become dream-thoughts are probably completed during the course of the day without attracting awareness. Freud comments, "If we are to conclude anything from this state of affairs, it can only be that it proves that *the most complex mental operations are possible without the cooperation of consciousness.*"[23] One final quote summarizes the position which uncosciousness holds in psychoanalysis:

> A return from the overestimation of the property of consciousness is the indispensable preliminary to any genuine insight into the course of psychic events . . . the unconscious must be accepted as the general basis of the psychic life. The unconscious is the larger circle which includes the smaller circle of the conscious; everything conscious has a preliminary unconscious stage. . . . The unconscious is the true psychic reality; in its inner nature it is just as much unknown to us as the reality of the external world, and it is just as imperfectly communicated to us by the data of our sense-organs.[24]

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[22] Idem, The Interpretation of Dreams, in The Basic Writings of Sigmund Freud, ed. and trans. A.A. Brill (New York: Random House, Inc., 1938), p. 482.

[23] Ibid., p. 529.

[24] Ibid., p. 542.

This conception is the source of my interest in the possibility of a psychoanalytic learning theory. If it is accurate that 1) conscious life is a small portion of mental activity, and 2) the organism/environment relation is not exclusively mediated by conscious thought (i.e., the unconscious has a role in adaptation), then psychoanalyiss offers a theoretical framework which both forms a critique, and offers a solution, of the inadequacies of previous theory.

Later Formulations of the Unconscious: The Structural Theory

After having described Freud's original formulations of the unconscious as a psychological system, it is now necessary to indicate the limitations of that system and the alterations of it which were undertaken in later publications, particularly The Ego and the Id. This book represents the culmination of a series of efforts to solve the difficulties arising from the topography, unconscious--preconscious--conscious, and explicitly replaces this terminology with the structural constructs of id, ego, and superego. The following quote indicates Freud's new reservations is a vis the designation unconscious, and also contains one of the major reasons for his reservations:

> A part of the ego, too--and Heaven knows how important a part--may be Unconscious, undoubtedly is Unconscious . . . It (unconsciousness) becomes a quality which can have many meanings, a quality which we are unable to make, as we should have hoped to do, the basis of far-reaching and inevitable conclusions.[25]

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[25] Idem, The Ego and the Id (1923b), Standard Edition, vol. 19, p. 18.

In other words, unconsciousness can no longer be used as a substantive, a system in the mind with an exclusive mode of operation and type of mental energy. The reason cited is that part of the ego is unconscious, the part referred to being the defensive structures, and this blurs the boundaries between the repressed (instinctual energy) and the repressive forces (defenses) upon which the former distinction, unconscious--preconscious--conscious, was based. The defenses obviously serve the purposes of ego reality-orientation; the problem arises, how can two opposing forces belong to the same system (the unconscious)?

This problem had arisen prior to the publication of The Ego and the Id, as pointed out by Gill in his monograph Topography and Systems in Psychoanalytic Theory.[26] At the beginning of his major theoretical paper in defense of the substantive unconscious, Freud says, "It would put an end to all misunderstandings if, from now on, in describing the various kinds of psychical acts we were to disregard the questions of whether they were conscious or unconscious."[27] One year later he specifically refers to unconscious repression-- ". . . the process of repression, too, would be accomplished without the cognizance of the ego."[28] In the same work, he again refers to this paradox:

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[26] M.M. Gill, Topography and Systems in Psychoanalytic Theory (New York: International Universities Press, Inc., 1963), Psychological Issues, Monogr. 10.

[27] S. Freud, "The Unconscious," p. 172.

[28] Idem, A General Introduction to Psychoanalysis (New York: Perma Giants, 1949), p. 259.

> The counter-charge or the resistance is not part of the unconscious, but of the ego which co-operates with us, and this is so, even if it is not actually conscious. We know that a difficulty arises here in the ambiguity of the word "unconscious," on the one hand, as a phenomenon, on the other hand, as a system.[28]

A mental content subjectively experienced as unconscious (the counter-charge) cannot consistently be referred to as part of consciousness (the ego). Finally, the definition of unconscious was decided in favor of a certain quality of thought, unawareness, which was applicable throughout the entire range of thought organization, primary and secondary. The system id was endowed with the unconscious' former mode of organization (the primary process) and its form of energy (unbound). In The New Introductory Lectures on Psychoanalysis, Freud reiterates his structural proposal--

> At this point, the discovery, inconvenient at first sight, that parts of the ego and super-ego, too, are unconscious in the dynamic sense, has a facilitating effect and enables us to remove a complication. We evidently have no right to call that region of the mind which is neither ego nor super-ego the Ucs. system, since the character of unconsciousness is not exclusive to it. Very well; we will no longer use the word "unconscious" in the sense of a system . . . we will call it henceforward the "id" . . . to express the essential character of this province of the mind--the character of being foreign to the ego.[29]

The question remains of the relationship between the unconscious and its predecessor, the id. Is it an exact transposition from one to the other, and if so, what is the significance for my stated goal, that of investigating the role of unconscious

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[28] Ibid., p. 379.

[29] Idem, New Introductory Lectures on Psychoanalysis (1933a), Standard Edition, vol. 22, pp. 101-2.

processes in knowledge acquisition? First, it is to be noted that the formal characteristics of the substantive unconscious have been subsumed under the construct of the id, but that the subjective quality of unconsciousness has not. Second, it is to be noted that even its formal properties--the primary process and unbound energy--were found to operate in the ego, also.[30]

Thus the id does not entirely encompass the former concept. Ultimately this can be interpreted as a theoretical acknowledgement of the interpenetration of the ego and the id, since they share operational modes to a certain extent. This are of overlap will be of importance in considering the influence of primary process on secondary process thinking, and in examining the genesis of the secondary process. My analysis will be in terms of the primary process and its formal properties--organization and energic (economic) properties--rather than in terms of locating a thought process along the scheme unconscious--preconscious--conscious. However, in general the subjective quality of unconsciousness will coincide with primary process, because relatively "normal" thought processes will be under consideration, rather than pathological thought (which might often include conscious delusions or hallucinations).

My argument will be, not that *unaltered* primary modes play an essential role in conscious mentation and adaptation, but that the extent of interaction and mutual modification between

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[30] See M.M. Gill, Topography and Systems in Psychoanalytic Theory, Chapter 5, for an excellent discussion of unconscious defense as an ego structure.

primary and secondary modes has not been sufficiently taken into account.

CHAPTER TWO

THE PRIMARY PROCESS

The primary process is of great importance to any discussion of unconscious or id functions, because, from Freud's earliest writings to his last publications, it is designated as the usual mode of operation pertaining to unconscious mentation. The Project for a Scientific Psychology contains this reference:

> A primary neuronic system corresponding to the id, having thus acquired a quantity (Qn), employs it only in order to get rid of it through the connecting path leading to the muscular mechanism, and thus keeps itself free from stimulus. This process of discharge is the primary function of neuronic systems.[1]

Speaking of the primary and secondary processes in The Interpretation of Dreams, where they are first explicitly formulated, he apparently refers back to this early version.

> Here I do no more than hold fast to the idea that the activity of the first -system aims at *the free outflow of the quantities of excitation* and that the second system . . . effects an *inhibition* of this outflow.[2]

The designation "primary" is also given a meaning of temporal sequence; it exists "from the beginning" while secondary organization is the result of a developmental process. However, as I

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[1] S. Freud, Project for a Scientific Psychology (1895), Standard Edition, vol. 1, p. 357.

[2] Idem, The Interpretation of Dreams, in The Basic Writings of Sigmund Freud, ed. and trans. A.A. Brill (New York: Random House, Inc., 1938), p. 534.

will discuss later, this temporal primacy has been brought into question by ego psychology, and there are grounds for this objection in Freud's own formulation.[3]

Thus "primacy" is most obviously related to energic characteristics of 1) uninhibited discharge, and 2) what is called mobile energy cathexes. As outlined briefly in the first chapter, mobile psychic energy operates through two basic mechanisms--condensation and displacement. A third mechanism is noted operating in dream formation (from which Freud's description of primary process is derived) which is considered intrinsic to unconscious mentation, and is called symbolization. I segregate it from the others for two reasons; first, because it does not directly contribute to mobility of cathexis, and second because some analysts subsume it under the mechanism of displacement.[4]

These mechanisms are first and most fully elucidated in Freud's study of dreams. The dream process can be understood as a "translation" of a preconscious thought into primary process organization, and, therefore, it offers the observer data concerning phenomena not usually available to conscious examination. The general characteristic of mobility is described thus. "The intensities of the individual ideas become capable of discharge in their entirety, and pass from one idea to another, so that

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[3] See, for example, H. Hartmann, Ego Psychology and the Problem of Adaptation (New York: International Universities Press, 1958).

[4] See M.M. Gill, "The Primary Process," in Motives and Thought. Psychoanalytic Essays in Honor of David Rapaport, ed. R.R. Holt (New York: International Universities Press, Inc., 1967), Psychological Issues, Monogr. 18-19.

individual ideas are formed which are endowed with great intensity."[5] Then Freud differentiates the mechanism of condensation:

> Through the repeated occurrence of this process, the intensity of an entire train of thought may ultimately be concentrated in a single conceptual unit. This is the fact of *compression* or *condensation*. . . . We get here, too, ideas which are of great psychic significance as nodal points or as end-results of whole chains of thought, but this value is not expressed by any character *actually manifest* for our internal perception.[6]

Displacement is most clearly described earlier.

> . . . a psychic force expresses itself in the dream-work which, on the one hand, strips the elements of the high psychic value of their intensity and, on the other hand, by means of *overdetermination*, creates new significant values from elements of slight value, which new values then make their way into the dream-content. . . . The process which we here assume to be operative is actually the most essential part of the dream-work; it may fitly be called dream-displacement. Dream-displacement and dream-condensation are the two craftsmen to whom we may chiefly ascribe the structure of the dream.[7]

Symbolization is treated as a residue of primitive conceptual associations which play merely an auxiliary role in the dream, though certain objects are designated by Freud according to universal meanings. However, Freud is cautious on the subject, and indicates that the mobility of significances in the primary process precludes rigid symbolic interpretation.[8]

The expression of logical relationships is rather limited by the primary organization of thought. Conjunctions such as 'if',

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[5] S. Freud, The Interpretation of Dreams, p. 530.

[6] Ibid.

[7] Ibid., p. 338.

[8] Ibid., pp. 368-75.

'because', 'either-or', can only be reproduced through simultaneity of presentation or by temporal succession. Similarity may be indicated by condensation.[9] Quite plainly the logic of conscious thought does not apply here. Representation through opposites is quite frequent and confounds the usual relations of concepts. Picturization, or pre-verbal thought, is characteristic, as is concretization (the treatment of words as if they were objects).[10]

One cause of distortion in the dream-work, referred to in a quote cited above as "a psychic force" expressing itself, is the censorship. The censor can be conceptualized as the ego or the preconscious mind which, in comparison to consciousness, continues to function as an organized structure throughout sleep. Part of this structure is the individual's system of countercathexes, or defenses, which continue to resist the entrance of unconscious instinctual impulses to the preconscious level. As these impulses arise and are not overlayed by conscious ongoing thought, the censor is said to "impose" distortion on their expression.

This brings to light an ambiguity in Freud's formulation; are the mechanisms of the primary process intrinsic to an independent organization system, or are they simply indications of the effect of repression on a thought process? In other words, is censorship causing displacement and condensation to appear?

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[9] Ibid., pp. 341-47.

[10] Ibid., p. 362.

Freud seems to answer the question in The Interpretation of Dreams.

> . . . these [primary] processes which are described as irrational are not in fact falsifications of normal processes--intellectual errors--but are modes of activity of the psychical apparatus that have been freed from an inhibition.[11]

This assertion would agree with Freud's insistence on the temporal primacy of the primary process, also, because developmentally it would predate repression. Therefore, it could not be merely a result of censorship. However, Freud has elsewhere stated that the unconscious is, as such, totally unknown to us,[12] which would seem to imply that only compromise formations between primary and secondary processes can become "visible." This would seem to indicate that it is only the distortion of censorship which can become conscious in the dream.

The solution to this question rests in distinguishing clearly between mechanisms of organization and the contents of unconsciousness rarely emerge undistorted, but the formal aspects of the id as a system may be observed unchanged in the orderly and lawful transformations which occur in the dream material.[13]

M.M. Gill in his paper "The Primary Process" makes a distinction vis a vis repression between displacement and

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[11] Ibid., p. 538.

[12] See quote, page 18 of my first chapter.

[13] M.M. Gill, "The Primary Process," p. 276. R.R. Holt is noted by Gill as saying in an unpublished manuscript that there are two types of primary process material: one identifies itself directly through its absurdity or obviously symbolic character, while the other can only be identified by tracing the original thought of which it is a distortion and noting the translation which has occurred.

condensation.[14] Displacement is explicitly connected to the action of repression in The Interpretation of Dreams;[15] condensation, however, is not treated similarly by Freud, though the point of comparison between the two processes is not clarified until some fifteen years later:

> But although condensation makes dreams obscure, it does not give one the impression of being an effect of the dream-censorship. It seems rather traceable to some mechanical or economic factor . . .[16]

Symbolism is a uniquely independent factor in the dream-work. Freud comments,

> We must not suppose that dream-symbolism is a creation of the dream-work; it is in all probability a characteristic of the unconscious thinking which provides the dream-work with the material for condensation, displacement and dramatization.[17]

What, then, is the relationship of the primary mechanisms to repression if it is not a direct one? The censorship is not to be identified with repression itself, but ir rather the process of forming a representation which both achieves a certain amount of gratification from instinctual release and attains consciousness. The "censorship" is thus the convergence of mutual influence between primary and secondary process. The organization of secondary process material under the mode of the primary process incidentally "serves the purpose" of expressing unconscious impulses

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[14] Ibid., p. 280.

[15] S. Freud, The Interpretation of Dreams, p. 377. ". . . and for reasons of censorship it (the dream) transfers psychical intensity from what is important . . . on to what is indifferent."

[16] Idem, Introductory Lectures on Psychoanalysis (1916-17), Standard Edition, vols. 15 and 16, p. 173.

[17] Idem, "On Dreams " (1901a), Standard Edition, vol. 5, p. 685.

without arousing anxiety, but it is not a teleological phenomenon in the service of defense. The mechanisms of condensation, displacement, and symbolization automatically appear in the absence of suppression by the secondary process. Instinct is necessarily inhibited from direct discharge by structuralized anticathexes, but the mobility of the primary mechanisms facilitates the transfer of drive energy to conceptual or psychic "pathways" (by pathways I refer to images, words, memories) which are not blocked in some way. This argument is based upon the energic definition of displacement and condensation as operational modes of mobile energy, which is postulated as an inherent quality of the id, and of which they are merely varieties.

The confusion over the relation of primary process to repression appears to me to arise at least in part from an overlap of economic and structural concepts. Displacement and condensation have thus far been spoken of in energic terms, while the censorship and repressive forces are semipermanent structural aspects of the ego. Usually the primary process is considered to be completely unstructured, the id a "seething cauldron" of impulses, but I have repeatedly used the word "organization" in speaking of it. Greater emphasis is being placed on structure as opposed to energy in present psychoanalytic theory.[18] Particularly as regards the unconscious processes, it appears to be a revolutionary development. This emphasis is of special relevance to my argument since it implies a closer relatedness of primary and secondary process

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[18] See especially D. Rapaport, The Structure of Psychoanalytic Theory. A Systematizing Attempt (New York: International Universities Press, Inc., 1960), Psychological Issues, Monogr. 6.

mentation than was previously assumed. To follow the temporal development of Freud's theory, I will first examine the economic dichotomy, bound versus free energy, which distinguishes the two systems; there will follow a structural formulation of the primary organization.

Psychic Energy: Bound versus Free

As I have already demonstrated, Freud invariably associated the primary process with "unbound" free energy discharge. However, his idea of "bound" energy which characterizes the preconscious and conscious thought processes is not as easy to understand as its energic counterpart; neither the mode of its genesis nor provision for its maintenance is specified in Freud's writings. It is a concept which presumably has its roots in Freud's neurophysiological background, and thus would originally have referred to specific neurological events. Since Freud never completely resigned his belief in the theoretical unity of physiology and psychology, it is probably meant to serve as a theoretical construct which would eventually receive its full content from advances in physiology. Nevertheless, psychic energy is in the meantime to be distinguished from physical energy.[19]

Some analysts criticize the concept of psychic energy as an anachronistic carry-over from nineteenth century physics, but as

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[19] See A.H. Modell, "The Concept of Psychic Energy," Journal of the American Psychoanalytic Association 11 (1963):605-18; also, R.C. Solomon, "Freud's Neurological Theory of the Mind," in Psychoanalysis Scientific Method and Philosophy, ed. S. Hook (New York: New York University Press, 1959), pp. 25-52.

R.C. Solomon points out, it provides Freud's linkage between the mechanistic physical model of neurology and the teleological model of drives and instincts.[20] The concept operates equally well in both models, and is perhaps a potential means of translation from one to the other. According to Karl Pribram, the criticism of anachronism is unjustified from an empirical as well as philosophical viewpoint, and he points out the substantiation provided by present neurophysiological data for the theoretical framework of Freud's Project for a Scientific Psychology.[21] However, this chapter cannot enter too deeply into this discussion, and will of necessity confine itself to discussion of psychic energy and its role in the theory of thinking. It will be assumed that the language of metapsychology ultimately has as its referents physiological events as yet unspecified, but which potentially will serve as empirical grounds for testing the validity of psychoanalytic theory.

As mentioned in the previous chapter, Breuer, Freud's early collaborator, was the first to mention the distinction between free and bound energy. Consciousness was maintained by "a state of tonic excitation" which facilitated passage of messages along nerve fibres, a condition compared to the tonus of muscles prepared for action.[22] The state of tonic excitation corresponds to

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[20] R.R. Holt, "Beyond Vitalism and Mechanism: Freud's Concept of Psychic Energy," in Historical Roots of Contemporary Psychology, ed. B. Wolman (New York: Harper and Row, 1968), pp. 196-226.

[21] K. Pribram, "The Neuropsychology of S. Freud," in Experimental Foundations of Clinical Psychology," ed. A.J. Bachrach (New York: Basic Books, 1962), p. 443.

[22] J. Breuer and S. Freud, Studies on Hysteria (1895d), Standard Edition, vol. 2, p. 193.

the condition referred to by Freud as binding, and here one encounters a slight paradox.

In the course of his writings, Freud almost reversed Breuer's terminology, and binding came to mean the inhibtion rather than the facilitation of neural impulses.[23] To be more exact, the "binding" of a neuron obstructs the passage of a large amount of stimulation and facilitates the passage of a small amount. This conception was an attempt to explain the mode of secondary thought, which Freud presumed to operate with small amounts of energy, preserving the drives to be relased in motor activity. He says, "Thus the process of thought would be characterized mechanically by this bound condition, which combines a high cathexis with a small flow of current."[24] How can it be that a mental operation is highly charged with energy and yet is "bound", i.e. does not release its excitatory stimulation? Drawing on the neurological model, one might assume that a neuron has a finite amount of excitation which it can transmit. If it is highly charged (cathected), a small stimulation would suffice to cause a transmission of energy; on the other hand, a large quantity of excitation would be blocked due to the finite capacity of the neuron to handle stimulation, a great part of which is taken up by its quiescent charge (cathexis, tonic excitation). Holt compares this neuronal function of inhibition/facilitation to a

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[23] See R.R. Holt, "A Critical Examination of Freud's Concept of Bound vs. Free Cathexis, Journal of the American Psychoanalytic Association 10 (1962):475-525.

[24] S. Freud, Project for a Scientific Psychology, p. 425.

sieve or bottleneck.[25] A more apt analogy is perhaps that of a filter, as this comparison illuminates the relationship of binding to defense. A bound or cathected neuron "filters out" or prevents unbound (primary process) energy from operating.

However, this discussion may be a bit premature. It seems to have raised more questions than have been answered. Though it partially explains the inhibition of the primary process, tonic excitation (cathexis), or the retention of a certain level of stimulation, is not explained. An assumption of psychoanalysis is that psychological energies are subject to the law of entropy, i.e., that they tend towards discharge and the lowest level of tension.[26] Maintenance of tension seems to be inexplicable vis a vis this principle. Also, only one kind of energy has thus far been mentioned, that emanating from the drives. What, then, is the source of the energy necessary for cathexis? Indeed, the precise relationship between cathexis and binding has yet to be specified, though it is implied to be a direct one.

In discussing these questions, one must keep in mind that Freud's terminology was not entirely consistent, and underwent a development which at times reversed itself and re-introduced concepts used in the Project for a Scientific Psychology. The alteration of the meaning of "tonically bound" has been mentioned;

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[25] R.R. Holt, "A Critical Examination of Freud's Concept of Bound vs. Free Cathexis," p. 488.

[26] D. Rapaport and M.M. Gill, "The Points of View and Assumptions of Metapsychology," International Journal of Psychoanalysis 40 (1959):157.

the idea of cathexis underwent a similar progression. Originally, it referred only to a static charge of energy attached to a particular mental content, a meaning corresponding very closely with Breuer's tonic excitation.

> . . . a quantity passes more easily from a cathected neurone than to an uncathected one. . . . cathexis is seen to be equivaelnt, in respect of the passage of quantity, to facilitation.[27]

Later, in Beyond the Pleasure Principle, Freud wrote,

> The higher the system's own quiescent cathexis, the greater seems to be its binding force. . . . the lower its cathexis, the less capacity will it have for taking up inflowing energy . . .[28]

This statement contains both the correlation of cathexis with a quiescent or static charge and a specific linking of cathexis with binding.

However, there are other references in which cathexis loses both its static quality and its equivalency to binding. The most explicit statement of this occurs on the same page.

> . . . we have to distinguish between two kinds of cathexis of the psychical systems or their elements--a freely flowing cathexis that presses on towards discharge and a quiescent cathexis. We may perhaps suspect that the binding of the energy that streams into the mental apparatus consists in its change from a freely flowing into a quiescent state.[29]

The free discharge characteristic of the primary process is seen to be dependent upon mobility or flow of cathexis. In "The Unconscious" Freud speaks of condensation and displacement in

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[27] S. Freud, Project for a Scientific Psychology, p. 380.

[28] Idem, Beyond the Pleasure Principle (1920g), Standard Edition, vol. 18, p. 30.

[29] Ibid.

terms of cathexis.

> The cathectic intensities are much more mobile. By the process of displacement one idea may surrender to another its whole quota of cathexis; by the process of condensation it may appropriate the whole cathexis of several other ideas. I have proposed to regard these two processes as distinguishing marks of the so-called primary psychical process.[30]

Binding, on the contrary, is indicative of the secondary process, and thus the two, binding and cathexis, have become differentiated.

It remains to define the process of binding and the source of its energy. I have already referred to one possible mechanism of binding or inhibition of free-flowing energy; the level of tonic excitation may prevent large quantities of energy from being transmitted. However, the question was raised as to the maintenance of a high level of excitation. Freud appears to link this phenomenon to the organization of the ego. He states:

> . . . we are led to the hypothesis of what may be described as a "bound" condition in the neurones . . . This hypothesis may be made more plausible by the consideration that the current in a neurone is clearly affected by the cathexes surrounding it. Now the ego itself is a mass of neurones of this kind which hold fast to their cathexis (which, that is, are in a bound condition), and this can occur, no doubt, only as a result of their mutual influence.[31]

This still remains on a descriptive rather than an explanatory level because it offers no reason why a group of neurons should maintain a level of tension better than a single one, nor why this fact should be peculiar to the ego or secondary process.

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[30] Idem, "The Unconscious," p. 186.

[31] Idem, Project for a Scientific Psychology, p. 425.

One may hypothesize that it is in some way related to a later explation of the genesis of the secondary process.

> Thought was endowed with characteristics which made it possible for the mental apparatus to tolerate an increased tension of stimulus while the process of discharge was postponed. . . . For this purpose the conversion of freely displaceable cathexes into "bound" cathexes was necessary, and this was brought about by means of raising the level of the whole cathectic process.[32]

Elsewhere this phenomenon is referred to as "a rise in potential."[33] Binding, then is postulated to be a rise in tension of an entire system of neurons comprising the ego. It seems one can go no further in this direction without entering the realm of physiology. Freud himself comments, "The mechanics of these processes is entirely unknown to me; anyone who seriously wishes to follow up these ideas must address himself to the physical analogies."[34]

To pursue the matter in psychical terms, one must return to the notion of cathexis. A mental representation (idea, image, memory) which is cathected is endoved with a certain quantity of energy but is not necessarily bound (inhibited). However, a certain type of cathexis--anticathexis--is intimately associated with repression and defense, the structures which prevent the free flow of unconscious impulse. Countercathexes both bind and are themselves bound. They bind or inhibit energy in the sense already mentioned, by blocking transmission; they are bound in

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[32] Idem, "Formulations on the Two Principles of Mental Functioning," (1911b), Standard Edition, vol. 12, p. 221.

[33] Idem, The Interpretation of Dreams, p. 534.

[34] Ibid., p. 533.

the sense of being committed to a particular defensive function and thus are unavailable for other purposes. Here we see two meanings of bound energy which should be distinguished--one corresponding to the word "inhibited", applicable to repressed forces, the other to the sense of "committed", or structuralized, organized; the double meaning of the concept of bound energy reflects two aspects of the ego as a structural organization, permanence and neutralization. But before pursuing the structural implications of this observation, the energic source of anticathexis must be elucidated.

The possibility of a neutral energy source not derived from the instincts has been the subject of a debate which has not yet been fully resolved.[35] Freud refers to a type of energy employed by the ego and particularly involved in the process of becoming conscious. This he calls "attention cathexis" or "hypercathexis."[36] It is usually presumed that the original source of attentional energy is the sexual or aggressive drives which have undergone a transformation, a neutralization (sometimes also called binding), and have become part of the ego. Hypercathexis is described as highly mobile and nonmotivational.

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[35] See particularly H. Hartmann, who introduced the idea of originally neutral energy, "Notes on the Superego," in Papers on Psychoanalytic Psychology, eds. H. Hartmann, E. Kris, and R.M. Loewenstein (New York: International Universities Press, Inc., 1964), Psychological Issues, Monogr. 14.

[36] "Under certain conditions a train of thought with a purposive cathexis is capable of attracting the attention of consciousness to itself and in that event, through the agency of consciousness, receives a hypercathexis." S. Freud, The Interpretation of Dreams, p. 529.

In The Ego and the Id, Freud mentions it, "We have reckoned as thought there existed in the mind a displaceable energy, which, neutral in itself, can be added to a qualitatively differentiated erotic or destructive impulse, and augment its total cathexis."[37] This idea of augmenting the cathexis of a drive has a similarity to the idea of raising the potential of a process in order to bind it; there is some indication that hypercathexis is the energy source which accomplishes the binding of energy discharge.

In his last major publication, Freud states this function of hypercathexis explicitly.

> . . . we speak of cathexes and hypercathexes of the material of the mind and even venture to suppose that a hypercathexis brings about a sort of synthesis of different processes--a synthesis in the course of which free energy is transformed into bound energy . . . we hold firmly to the view that the distinction between the unconscious and the preconscious condition also lies in dynamic relations of this same kind . . .[38]

It is never made clear how the synthesis is achieved nor from where hypercathectic energy originates. One might suppose that it requires a certain quantity of energy to establish a stable linkage between a mental representation and its drive cathexis (significance), and that this is contributed by the concentration of attention upon the representation. One could relate this to the previous concept of tonic excitation (binding) as a filter or sieve; the rise in potential provided by hypercathexis would then prevent the free transfer of energy and

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[37] Idem, The Ego and the Id (1923b), Standard Edition, vol. 19, p. 44.

[38] Idem, An Outline of Psychoanalysis (1940a), Standard Edition, vol. 23, p. 44.

would effectively "bind" associations by allowing only small displacements to occur.

Let me summarize what has been said thus far concerning the transformation from free to bound energy. Binding is 1) the inhibition of instinctual impulses by countercathexes; 2) the concentration of ego cathexes upon a certain function; 3) the result of a rise in potential due to hypercathexis of a mental content. How can these basic characteristics be unifed? Freud suggests that it is the hypercathexis of a psychic representative which, when withdrawn, becomes the quantum of energy used to bind that representative. This makes it possible to formulate a tentative definition of binding: it is the concentration of neutral ego energy (hypercathexis) in the inhibition of freely mobile drive energy (countercathexis), by causing a rise in the level of energic tension and effectively blocking large quantities of psychic energy.

Economically, the binding of free energy marks the transposition from primary to secondary process mentation. The reflex arc model of automatic discharge of stimulation cannot explain such permanent phenomena as memory, personality patterns, or modification of behavior through learning. Energic flow must of necessity become structuralized and stable for environmental adaptation to take place; the "chaotic" id must be channelled. Binding, in accomplishing the building of defenses and the stable associations of idea and cathexis, represents the passage from process to structure (an occurrence which Rapaport observes is closely related to, if not synonymous with, learning).[39]

[39] D. Rapaport, The Structure of Psychoanalytic Theory. A Systematizing Attempt, p. 134.

Therefore this rather extended attempt to explicate the concept of binding is necessary to the understanding of the genesis of organized, relatively enduring modes of thought. Explicitly structural components of the primary process, some innate and some arising from the process just examined, can now be integrated with the economic dynamic approach.

Primary Process and the Structural Theory

A definition of psychic structure is not provided by Freud, though he does utilize the "structural" approach. Rapaport and Gill define the structural point of view as demanding ". . . that the psychoanalytic explanation of any psychological phenomenon include propositions concerning the *abiding psychological configurations* (structures) involved in the phenomenon."[40] Structures are characterized by "a slow rate of change," and include 1) inborn regulatory functions such as drive discharge-thresholds and motor, sensory and memory apparatuses; 2) acquired patterns such as character traits, defenses, habitual motor reaction chains, concepts. Rapaport observes that the structural point of view is implied by several psychoanalytic hypotheses, thought it did not originate in the elaboration of metapsychology but rather from clinical observations (as is true of so many of psychoanalysis' assumptions). The theory of drives was one of the first to be formulated, and in principle it called for the assumption of drive discharge-thresholds. The concept of thresholds

[40] D. Rapaport and M.M. Gill, "The Points of View and Assumptions of Metapsychology," p. 159.

could have initiated a structural approach to the psyche; it was the predecessor of the conflictual model of drive versus defense. However, it was the observation of the lack of direct causality between drives and behavior which actually stimulated the postulation of structures opposing and modifying the drives. Drives, which were considered to be cyclic and fluctuating with external stimulation, were obviously interacting with psychological factors which exhibited a high degree of permanence. The evidence for such stable factors was found in analysis, e.g., the resistance of symptoms and defense patterns to change, and characterological traits which remained even after the disappearance of neurotic behaviors.

The topographic conceptions of unconscious, preconscious, and consciousness were relatively fluid, being primarily energic concepts, and it was not until after the introduction of id, ego, and superego that structure and substructure were explicitly recognized. Due to the work of Anna Freud, Hartmann, and others the structural aspects of the ego are much more familiar to us than those of the id. And it is intuitively obvious to the self-observer that consciousness--memory, perception, conceptual thought--are organized processes.

It is not so obvious that unconsciousness--drives, defenses, fantasy, dreams --are also subject to organization, and in fact *require* form as well as content to be viable concepts. This obscurity is partially due to the intrinsic difficulty of observing these phenomena from a structured framework. Drives and defenses are normally unavailable to introspection and can

only be constructed through inference and retrospective analysis; fantasies and dreams replace the ordered awareness of consciousness and are rarely (if ever) experienced within its sphere. However, the theoretical constructs of psychoanalysis, in the service of the law of psychic determinism, extract meaning, i.e. form and structure, from the seemingly irrational nature of the primary process. Though Freud did not fully explore the structural, as opposed to the dynamic, attributes of psychological existence, principles are provided for their further elucidation.

One characteristic of structure has been offered thus far, that of a slow rate of change (Rapaport and Gill). Holt, however, takes issue with this as a sufficient definition; he isolates organization, not temporal endurance, as the cardinal attribute of structure.[41] However, one wonders whether any *entity* exists which does not have a form of organization, particularly an entity which exhibits a slow rate of change. One might say that it is in the nature of an organization to maintain itself, to endure temporally (whether or not it actually achieves this). Thus a form of organization is quite generally correlated with temporal endurance; yet Holt's central point seems valid, that time is not the most crucial dimension which differentiates structures from chaos. As he notes, "The processes that shape the landscape are in themselves less structural than

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[41] R.R. Holt, "The Development of the Primary Process. A Structuralizing View," in Motives and Thought. Psychoanalytic Essays in Honor of David Rapaport (New York: International Universities Press, Inc., 1967), Psychological Issues, Monogr. 18-19.

a soap bubble . . . "[42]

However, in psychoanalysis, the observer is commonly concerned with structures which *do* endure. The concept of structure is applied to many dissimilar phenomena which fall on a broad continuum of permanence/impermanence, roughly divisible into three levels of analysis. Id, ego, and superego are very enduring macrosystems of the mind which represent modes of organization that usually resist dissolution even in psychosis. Rapaport and Gill refer to certain derivatives of their differentiation as structures, also, e.g. defenses, discharge thresholds. On approximately the same conceptual scale, Hartmann speaks of memory, motility, and perception as structures. More specific mental contents (fantasies, ideas) are sometimes called structures; for example, Fisher's studies of dreams and images,[43] and Klein's discussion of peremptory trains of thought,[44] both make use of this level of analysis. In this chapter, structure will refer at various times to all three levels, but the second usage will be of greatest concern.

Holt points out several pieces of evidence for the structural nature of the id's primary process,[45] several of which I also

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[42] Ibid., p. 352. Note also that defining a structure as an organization merely shifts the problem of definition from the first term to the second. At least the characteristic of a slow rate of change has the advantage of being empirically specifiable.

[43] C. Fisher, "Dreams, Images, Perception. A Study of Unconscious--Preconscious Relationships," Journal of the American Psychoanalytic Association 4 (1956):5-48.

[44] G. Klein, "Peremptory Ideation: Structure and Force in Motivated Ideas," in Motives and Thought. Psychoanalytic Essays in Honor of David Rapaport, ed. R.R. Holt, pp. 80-128.

[45] R.R. Holt, "The Development of the Primary Process," pp. 352-58.

noted previously and will discuss more fully here. The first is the evidence that the dream-work makes use of an organized arrangement of memories when regression to perceptual images occurs. The organization utlized is the type Rapaport calls the "drive organization of memories."[46] It is based on a simultaneous experience of various characteristics of the situation of drive satisfaction, all of which become associated with that drive. The organization does not yet include discrete concepts and stable causal relations, but it is a *system* rather than a chaotic jumble of unrelated images. It appears disorganized to conscious thought, but that is merely because the mode of operation is different and paradoxically unfamiliar to the adult mind. Associations within such an organization are not arbitrary, but occur within a circumscribed set of mental contents which relate to one another vis a vis a drive. Within time, these associations become increasingly resistant to change, and form a structured pattern which underlies fantasy and motivation (including motivation of conscious thought).

Closely related to this network of memory associations is the "lawfulness" of condensation and displacement. It should be clear from the foregoing discussion of these mechanisms that they can be traced through transformations which appear logical from the point of view of some organizing principle, usually a drive, which may be unconscious but remains a structuralizing factor.

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[46] D. Rapaport, ed., The Organization and Pathology of Thought (New York: Columbia University Press, 1951), p. 693.

Condensation and displacement are based on drive memory associations, superficial similarities of objects and words, and psychological meaning-similarities (by this I mean that conceptual equality may link two representations, e.g. through symbolism). Selection by similarity would seem to imply a scanning operation, or a structural principle or rule--perhaps similar to rules of language use--which exists even in primary process thinking.

Certainly some selective principle is at work in making dreams content "representable," which Freud states is a factor operating in the selection of some images rather than others.[47] The creation of a composite image from two or more separate elements requires an organizing factor which can construct a perceptually undistorted or believable image; for example, a recognizable human face which combines the features of two individuals. Indeed, the requirements of the primary process goals seem almost more complex than those of the secondary process. The latter has only to form an identity of thought with reality, a relatively direct association, whereas the discharge of primary process energy follows a circuitous path due to the function of repression.

Repression itself gives evidence of a structural arrangement, the deployment of countercathexes, which remains relatively stable. The primary process is channelled or deflected, i.e. structuralized, by the pattern of defenses which an individual has established. The representations produced by the primary process, with the exception of enduring fantasies patterned on the drive

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[47] S. Freud, The Interpretation of Dreams, p. 361.

organization of memories, are usually not very stable and should not be referred to as structures; it is their form, not their content, which is an enduring organization. Neurotic symptoms are comparable to fantasies in that they are stable, enduring products of the primary process and can be called structures in their own right. In symptom formation, one of the mechanisms of mobile energy becomes habitual, as with projection in paranoia.

The problem of symbols and their role in the primary process arises again in the search for structural id elements. Symbols certainly seem to represent structures in the third sense referred to above, just as concepts can be defined as organizations in this way. Holt includes symbols among the phenomena representing the structured nature of the primary process.[48] A symbol has a stable association with a particular content, and tends to recur regularly; it even has a communal usage which increases its stability. Therefore, it is logically to be included among the structural components of primary process thinking, yet it is of peripheral importance for this discussion which is focused on form, mode, and regulatory principle, rather than on content.

A symbol is a structuralized content regardless of the operation, primary or secondary, of which it forms a part. I have been attempting to prove that the *primary process in particular does not follow a totally random course* in dreams, fantasies, or preconscious thought, but that *it conforms to a certain kind of rationality*. This is the burden of psychoanalysis' message, that there is meaning where none appears to exist. It is a hermeneutic

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[48] R.R. Holt, "The Development of the Primary Process," pp. 357-59.

of unconsciousness and of desire which postulates a second logic, based on its own postulates that, when explicated, reveal an ordered process at work.

The Development of the Primary Process

Earlier in this chapter, a controversy concerning the autonomy of the primary process was discussed, and the conclusion was reached that it did not originate in defense but predated repression (see pages 27-31). This conclusion, however, left open the question of its actual origin and course of development, if such a development is undergone. Many of the structural aspects of the primary process noted above appear to be the product of development; for example, organized memories, discharge channels, and neurotic symptoms. Max Schur notes,

> . . . that one set of *theoretical* formulations implies that the id is present at birth, is conservative, immutable indestructible . . . The *pragmatic* formulations based on observations are quite different, however . . . psychosexual development from the oral to the genital organizations is always described in terms of *development* of the instinctual drives. These . . . are also applied to the structure id.[49]

He is speaking of the id specifically, but if the id undergoes an evolution, then it can be assumed that its mode of operation does also.

Schur raises the question of the ego functions, perception and memory, and concludes that the id also possesses access to these functions. In the above discussion, memory has already been

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[49] M. Schur, The Id and the Regulatory Principles of Mental Functioning (London: Hogarth Press, 1967), pp. 59-60.

included in the id. Concerning perception, Freud says that the id has ". . . a world of perception of its own. It detects with extradordinary acuteness certain changes in its interior."[50] These changes would frequently be brought about by stimulation from the external world, thus implying communication between the id and reality, i.e., perception. If both the id and the perceptual and memory organizations develop, Schur assumes that they interact, and the the id plays a role in evolving adaptation.

This process of adaptation has been examined vis a vis the ego by Erikson, Hartmann, and others, but not from the point of view of the id's impact on development. Schur bases his discussion of the id on the hypothesis, introduced by Hartmann, that there is an undifferentiated phase before the dichotomy ego/id. Schur proposes that the emergence of the wish which he calls the functional unit of the id is associated with the emergence of the id.

> This transition from the functioning on the level of a reflex apparatus to that of a wish represents the developmental model for the transition from somatic needs to instinctual drives as mental representations of stimuli arising from within the soma, and for the development of the structure id from the undifferentiated phase.[51]

He is implying that the id becomes, in a sense, a conceptual organization in that direct awareness of instincts ceases to occur and only representations appear even in the id. This is in line with Freud's statement,

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[50] S. Freud, An Outline of Psychoanalysis, p. 198.

[51] M Schur, The Id and the Regulatory Principles of Mental Functioning, p. 68.

> Even in the unconscious, moreover, an instinct cannot be represented otherwise than by an idea. If an instinct did not attach itself to an idea or manifest itself as an affective state, we could know nothing about it.[52]

The addition by Schur is the developmental aspect which changes the wish from a primordial to a derivative experience.

This has implications for the pleasure principle which regulates the primary process; the wish for pleasure is the result of an accumulation of a network of memories, the fulfilment of the wish changing and growing more complex with the increasing number of memories.[53] The primary process, under the impact of this development, would inevitably be altered in parallel fashion. As memory and perception within the id grow more rich, the material available to the primary process raises the conceptual level of the mechanisms involved.

> The mental functions organized according to the primary process range, therefore, from the most primitive elements that we attribute to the id, based chiefly on primitive perception and memory traces, to such relatively complex processes as fantasies also based on the memory traces of object and word representations.[54]

Schur's view finds substantiation and agreement from many authors, for example, Rapaport, Gill, Holt, Hartmann, Fisher, Kris, and others. It is the basis for both a developmental approach to the id, and for a theory of the interpenetration of primary and

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[52] S. Freud, "The Unconscious," p. 177.

[53] M. Schur, The Id and the Regulatory Principles of Mental Functioning, p. 152.

[54] Ibid., p. 114. It should not be forgotten that this developmental process differs from the unilateral physical development. Old "primitive" memory traces do not cease to be active and thus higher and lower manifestations of the primary process coexist.

secondary process thought. Wolff expresses this point of view also in comparing Piaget and Freud on developmental grounds.[55] Holt applies the idea in his above-mentioned paper on the primary process, and compares it with the empirical work of Piaget.

The primary process is characterized by mobile instinctual energy seeking direct discharge or gratification. It is typical of the young infant that a delay in feeding, or an unanswered desire for attention, or the frustrated need to sleep will not be easily tolerated. Gratification is demanded immediately; this seems to indicate that primary process is operant from birth. But one should not overlook the fact that this represents an expression of the energic aspects only. This suggests that structurally the primary operational mode undergoes development but that the character of its energy sources does not alter, in contrast to the secondary process in which both structure and energy discharge have undergone change. Thus the development will focus on perception, motility and memory.

Wolff and Holt take somewhat different approaches to the developmental course of the primary process, with Holt sometimes appearing to precisely reverse Freud's exposition of mental development. Wolff notes the magical superstitious nature of behavior indulged in during the third stage of Piaget's sensorimotor development and postulates that at the time such behavior

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[55] P.H. Wolff, The Developmental Psychologies of Jean Piaget and Psychoanalysis (New York: International Universities Press, Inc., 1960), Psychological Issues, Monogr. 5.

is reality-adaptive. He says,

> The adaptive values of such procedures is indicated by their transformation into reality-adaptive means during the fourth stage. . . . Psychoanalysis . . . has not so far explored the possibility that primary-process functions may actually prepare the way for later secondary-rpocess functions.[56]

On the contrary, Holt argues, the third stage does not represent the primary process at all; the magical quality is merely the projection of adult thought into the child's world. He states,

> . . . the same elements can follow two lines of development: one leading to adaptation and the secondary process, and another to a different type of ideation that will indeed eventually be synthesized into magical or primary-process thinking.
>
> One of the means by which such consolidation can take place is temporary regression . . . a regressive return to an earlier operation as a result of frustration cannot be the same as the first occurrence of the allegedly magical procedure.[57]

Later he says that

> . . . the regressively revived magical procedures, fluidity, and other primary-process-like aspects of sensorimotor behavior can take on new meaning: they are re-experienced in the context of a growing coherence and internalization, so that they now have the possibility of coalescing into what can be plausibly conceived as a process, a different *system* of ideation.[58]

Holt's observation that the primary process would not become a differentiated system until the relatively late stages of development appears to me as merely a statement of the obvious; that is, that it cannot be differentiated fully until the secondary

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[56] P.H. Wolff, "Cognitive Considerations for a Psychoanalytic Theory of Language Acquisition," in Motives and Thought. Psychoanalytic Essays in Honor of David Rapaport, ed. R.R. Holt, pp. 116-17.

[57] R.R. Holt, "The Development of the Primary Process," pp. 369-70.

[58] Ibid., p. 372.

process asserts itself and provides an alternative from which to distinguish it. That is not sufficient reason, however, to assume that the primary process as such, i.e., its mechanisms of condensation and substitution, and its other mobile energy transformations, do not operate previously. Holt's view also contradicts the idea of a smooth and continuous development of primary process, dependent upon the evolution of memory and perception, that is described by Schur and which seems to be substantiated by Wolff.

There is a second point of divergence from Freud's original formulations which both Holt and Wolff mention, and about which they seem to agree more fully. This point concerns the origins of ideation and the primary process from hallucination.[59] Piaget purports to have shown that permanent object relations do not develop in the child until the end of his first year. Sensory perceptions exist only so long as they are part of a motor process. Drawing on this observation, both Wolff and Holt reject the possibility that hallucination can occur in the very young infant. Holt again goes a bit further, explcitly contradicting Freud, and speculates, ". . . it seems more reasonable to suppose

[59] The relevant passage from Freud occurs in The Interpretation of Dreams: ". . . the results, at the next occurrence of this need, a psychic impulse which seeks to revive the memory-image of the former percept (the satisfying object) . . . that is, it actually seeks to re-establish the situation of the first satisfaction. Such an impulse we call a wish; the reappearance of the perception constitutes the wish-fulfilment, and the full cathexis of the perception . . . constitutes the shortest path to the wish-fulfilment. We may assume a primitive state of the psychic apparatus in which this path is actually followed, i.e. in which the wish ends in hallucination." p. 509.

that the *primary process* develops out of frustrated goal-seeking [than from hallucination]."[60] He extends his discussion to dream images in the infant, and concludes that they too are impossible, and that it is more likely that sensorimotor schemata, not images, are experienced in sleep. However, in a footnote Holt makes a very interesting comment; during the first weeks of life the dreams develop, ". . . the elements becoming linked together into affectively meaningful quasi-thematic units."[61] This sounds very much like a development of a drive organization of memories and brings him close to Schur's idea of the development of primary process structures. He also notes that there is evidence that stable objects may appear first in dreams and fantasies, because the fluid perceptual background that in waking life causes the infant's attention to swing so rapidly from one thing to another is eliminated in sleep.[62] Such an observation would seem to indicate that the primary process develops very early, somewhat earlier than the secondary process because its object relations stabilize first.

To summarize this discussion of the development of the primary process, let me point out the ways in which these conceptions differ from Freud's. First, he considered the primary process as an "archaic" organization which exists from birth; the preceding discussion assumes a development of the id. Second, Freud sometimes characterized the id as "a chaos . . . it

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[60] R.R. Holt, "The Development of the Primary Process," p. 371.

[61] Ibid., p. 379.

[62] See Holt, Ibid., for a summary of empirical evidence relevant to this question. pp. 366-67.

has no organization . . ."[63] (though at other times he implied a primitive structure), whereas this discussion consistently postulates structural components. Third, Freud thought the primary process originated in hallucination; Piaget casts some doubt on that, or at least implies a delay of that development, because of the amount of learning necessary to achieve internal perception of stable objects. The model here presented argues for 1) an evolution of the structural apparatuses utilized by the id such as perception and memory, as well as the defensive system; 2) an unbound condition of psychic energy which probably originates with birth; and 3) a hierarchy of increasingly conceptual usages of the basic primary mechanisms, condensation and displacement, corresponding to the growing complexity of experiential content.

It now remains to explore the relationship of this hierarchy of primary operational modes to the secondary process, its origin and its mature functions.

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[63] S. Freud, New Introductory Lectures on Psychoanalysis (1933), Standard Edition, vol. 22, p. 73.

CHAPTER THREE

GENESIS OF THE SECONDARY PROCESS

The epistemological questions of the relation between observer and observed, between sense perception and fact, and beyond that of the nature and possibility of 'fact' - does there exist an autonomously objective reality from which to draw a final standard of truth - has received new significance in recent years from philosophy of science. The theory of relativity and Heisenberg's uncertainty principle have exemplified the interdependence of subject and object, and the residual unpredictability, the ultimate inscrutability of material nature which results from this interdependence. The world is visible to us only through human eyes, yet the mere act of observation inevitably alters what is perceived.

It has been the unique position of psychology that the observer and observed can easily be one and the same, and can never be extricated completely from one another. In self-observation, the internal processes which are the tools of observation become the subject of observation. However, it is increasingly recognized that introspection is only one example of a ubiquitous phenomenon, and that the nature of perceived reality cannot be determined with disregard for the measuring instruments being utilized. In the instance of psychology these instruments are perception, language, logical structure, affective response, instinctual orientation. Thus the problem presents itself; how

do these activities and characteristics interact with the environment, and to what degree do they alter its appearance? For reasons of survival and adaptation, it is necessary that the organism be aware of veridical danger, potential food supplies, etc. If the act of perception, mediated through desire and past experience, distorts the external world too greatly, learning and adaptation become impossible.

Psychoanalysis formulates an answer to this in its description of the genesis of secondary from primary process thought organization. Through this process thought detaches itself from the matrix of instincts and attains a semi-autonomy. The pleasure principle loses its compelling authority, and painful aspects of reality become available to perception. Thus an approximation to fact is made possible, and distortion by the instincts minimized. Objects are seen as essentially external and independent of the perceiver, and the naive subjectivity characteristic of the very young child, which attaches all objects to the sphere of self, is overcome. Herein lie both the possibility of knowledge and also the source of its limitations; though thought does regulate itself according to reality-oriented principles, yet its origin in biological motivation is not totally transcended. Therefore *the process of mentation itself becomes the locus of interaction between organism and environment.*

Freud's observation of the primary and secondary organizations and their interdependence represents the basis of a psychological epistemology, a theory of the mind. As a result,

it forms the heart of the following discussion; this chapter will attempt to elucidate the genesis of secondary process mentation and its complex relations - economic, dynamic, structural, genetic, and adaptive - to the primary process. The two have previously been differentiated from one another in metapsychological terms, and now must be examined in terms of their unity. Rapaport has done the most extensive work in developing a psychoanalytic theory of thought organization, and I will draw on his models of primary and secondary mentation as a foundation for discussion.

Transition from Primary to Secondary Process: Energic and Structural Characteristics.

There are difficulties in stating the views of psychoanalysis on thinking, the most obvious being that Freud himself never dealt with the subject *per se*, and his references to the nature of thought are scattered and fragmentary. The seventh chapter of The Interpretation of Dreams contains some speculation on thinking, but it was not updated as Freud's theory developed. Ego psychology has absorbed that task of revision, but a theory of thought is not the central concern of the movement. Nor does experimental psychology offer much aid, because the relevant research that has been done has not yet been systematized into a complete whole. Yet such empirical data must also eventually be taken into consideration.

Freud's own understanding of thought originally depended upon the concept of the psychic apparatus as a reflex arc for the

immediate discharge of tension. As mentioned in the previous chapter, hallucination is postulated to be the predecessor of thought, and it represents the shortest path to perception of the desired instinctual object, e.g. food, when the object is not actually present.[1] Rapaport takes this to be the "primary model of cognition" which he outlines thus: mounting drive tension--absence of drive object--hallucinatory image of object.[2] The hallucination arises from the cathecting of the memory traces associated with satisfaction of the particular drive.[3] These memories in the infant are of necessity diffuse[4], and tend to fuse all aspects of the situation in which satisfaction occurs. Initially, the object itself is relatively undifferentiated from its context, but in the process of development, discrete elements are discerned from one another.[5] These elements all remain related to the instinctual satisfaction and become the basis for a drive organization of memories. It is not made completely clear by Rapaport whether it is the original diffuse sensorimotor experience which is hallucinated, from the beginning, or whether

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[1] S. Freud, The Interpretation of Dreams, in The Basic Writings of Sigmund Freud, ed. and trans. A.A. Brill (New York: Random House Inc., 1938), p. 509.

[2] D. Rapaport, "Toward a Theory of Thinking," in Organization and Pathology of Thought (New York: Columbia University Press, 1951), p. 690; also in "The Conceptual Model of Psychoanalysis," in Psychoanalytic Psychiatry and Psychology, Clinical and Theoretical Papers, eds. R.P. Knight and C.R. Friedman (New York: International Universities Press, Inc., 1954), p. 227.

[3] S. Freud, The Interpretation of Dreams, p. 509.

[4] See the preceding discussion of Holt and Wolff, Chapter 2.

[5] D. Rapaport, "On the Psychoanalytic Theory of Thinking," International Journal of Psychoanalysis 31 (1950):163.

the differentiated contextual elements later become its content. This discussion will assume that the former is the case.

The occurrence of hallucination is only made possible by the mobility of the drive cathexes which can be displaced from external object to internal perception. This mobility of energy and its concentration on a single image is the first evidence of the functioning of primary process mechanisms, displacement and condensation, and it establishes their temporal primacy in Freud's view of mentation. They can be viewed as natural by-products of a delay in gratification and, later, of the many equivalent elements produced by the experience of satisfaction which can be substituted (i.e, displaced) for one another in relation to the drive. It is the delay which is the crucial factor in this process, for in the absence of frustration, not even hallucination would have cause to arise.

There are two results of delayed gratification. One is the hallucination, and the second is an affect discharge. Both are drive representations, ideas being predominantly the qualitative and affect the quantitative aspect of ideation.[6] This distinction will become clearer when it is seen that the secondary process brings about a split between the two, affect representing the partial cathectic (quantitative) discharge of an instinct.

The secondary model of cognition introduces reality-oriented thought. Hallucination is not able to provide a full

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[6] D. Rapaport, "Toward a Theory of Thinking," p. 691.

gratification of a drive because the need (for food, sex, etc.) continues to press; hallucination does not alleviate the endogenous stimuli. Freud comments,

> This primitive mental activity must have been modified by bitter practical experience into a secondary and more appropriate activity. The establishment of identity of perception by the short regressive path in the apparatus (hallucination) does not produce the same result in another respect as follows upon cathexis of the same perception coming from without. The satisfaction does not occur, and the need continues . . . In order to attain to more appropriate use of the psychic energy, it becomes necessary to suspend the full regression . . . This inhibition, as well as the subsequent deflection of the excitation, becomes the task of a second system . . . But all this complicated mental activity, which works its way from the memory-image to the production of identity via the outer world, merely represents a *roundabout way to wish-fulfilment* . . . Thinking is indeed nothing but a substitute for the hallucinatory wish . . .[7]

He says again, "All thinking is merely a detour from the memory of gratification (taken as a purposive idea) to the identical cathexis of the same memory, which is to be reached once more by the path of motor experiences."[8] How does this detour come about? Rapaport states that it is the alteration in the nature of the delay which is the essence of the transition from primary to secondary organization; initially it is caused by external circumstances but eventually comes under internal control.

The internalization of control is as biologically rooted as is the instinctual tension-reduction activity from which it arises, in that it is a "necessity made a virtue." It is learned, acquired from experience, and is not postulated as developing from some innate pre-formed capability for language and conceptual

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[7] S. Freud, The Interpretation of Dreams, p. 509-510.

[8] Ibid., p. 535.

thought. The concept is, in fact, rather close to Piaget's formulation of the emergence of thought from activity, with one important divergence; that of Freud's emphasis on the organism's needs in interaction with the environment. In contrast, Piaget's experiments describe behavior occurring at times when bodily need is minimized.

Internalization of control over the discharge of drive energy relates closely to the process of binding free cathexes (see Chapter 2) in the special case of primal repression. The infant has as yet no developed ego and thus the withdrawal of ego energies (hypercathexis) cannot explain the institution of inhibition. This must occur through the establishment of an anticathexis or defense structure.[9]

As was mentioned in the previous chapter, very little is known about the actual process which accomplishes the binding of drive energy. The drive thresholds are the biological predecessors of the defenses, and Rapaport suggests that a countercathectic system raises these discharge thresholds by establishing an equilibrium (drive vs. defense) on a "higher level of potential."[10] Freud assumed that repression was analogous to the "stimulus barrier" which protects the organism from overwhelming external stimuli,[11] while Hartmann suggests that defense

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[9] Idem, "The Unconscious" (1915e), Standard Edition, vol. 14, pp. 180-81.

[10] D. Rapaport, "The Conceptual Model of Psychoanalysis," p. 233.

[11] S. Freud, Beyond the Pleasure Principle (1920g), Standard Edition, vol. 18, pp. 26-31.

is derived from "organic control structures."[12] These three conceptualizations bear some resemblance to one another; one may speculate that they point toward the same phenomenon - the maturation of a physiological control of instinctual need which is mutually causative in relation to a change in the subjective psychological experience (the drive representatives) of the needs. In other words, reality-oriented cognition which eventually evolves into abstract thought arises concomitantly with the accommodation of bodily reactions to the external exigencies.

The results of this occurrence can be described in terms of motivation (energy) or thought organization (structure). In economic terminology the instinctual energy is prevented from reaching hallucinatory intensity and, as a consequence, the drive representatives--affect and ideation--do not achieve awareness, at least not simultaneously. It is not possible for one or the other to become conscious. If the idea or concept becomes conscious without bearing the affect of pleasure or pain, this enhances its usefulness as a neutral tool for testing reality, and thought has gained in autonomy and objectivity. In his early description of the genesis of the reality principle, Freud says,

> . . . the pain principle, although at other times it provides the thought-process with its most important clues, may also put difficulties in its way in the pursuit of identity of thought. Hence, the tendency of the thinking process must always be to free itself more and more from exclusive regulation by the pain principle, and to restrict the development of affect through the

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[12] H. Hartmann, Ego Psychology and the Problem of Adaptation (New York: International Universities Press, Inc., 1958).

work of thought to the very minimum which remains effective as a signal.[13]

The segregation of affect from idea is isolation, or intellectualization, and Rapaport suggests that it may be a mechanism involved in binding.[14] However, he does not elucidate the intriguing connection.

A second important consequence of binding is the inhibition of displacement and condensation. In the drive organization of memories, all images associated with an experience of satisfaction are equivalent and can acquire the total energy concentration of a drive. However, in the proliferation of experiences and memories, single ideas become associated with more than one drive. As a result, ideas become autonomous from any one given need, and instead are linked by experiential relations of time and space. Freud refers to reality-relations as qualities of sense.

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[13] S. Freud, The Interpretation of Dreams, p. 536. Quite plainly, even a signal of pleasure/unpleasure can distort total objectivity in the scientific usage of the word; adaptation precludes, not necessitates, this type of objective perception. See M. Polanyi, Personal Knowledge (New York: Harper and Row, 1956), for an illuminating discussion of objectivity.

[14] "A new principle of mental functioning was thus introduced; what was conceived of was no longer that which was pleasant, but that which was real, even if it should be unpleasant . . . In place of repression, which excluded from cathexis as productive of 'pain' some of the emerging ideas, there developed an impartial *passing of judgment*, which had to decide whether a particular idea was true or not; decision was determined by comparison with the memory traces of reality." S. Freud, "Formulations on the Two Principles of Mental Functioning" (1911b), Standard Edition, vol. 12, p. 220. Here Freud seems to be saying that repression, the original inhibition, is replaced by binding and neutralization. (It should be remembered that repression and binding are not necessarily synonymous.)

> The increased significance of external reality heightened the significance also of the sense-organs . . . and of the *consciousness* attached to them; the latter now learned to comprehend the qualitites of sense in addition to the qualitites of pleasure and pain which hitherto had alone been of interest to it.[15]

The association of ideas no longer follows the direct path to pleasure (hallucinatory discharge), but instead is guided by reality orientation. The "detour" utilizes bound energy, i.e., does not allow a concentration of cathexis on a single idea. The cathexes are relatively small in amount because displacement and condensation, no longer operative, are the mechanisms whereby such concentration is achieved. Thought proceeds without expenditure of drive cathexis which can subsequently be utilized for action. As a consequence of the low cathexis, images are recognized as memories rather than sensory experience, and hallucination is superceded by thought.[16]

In terms of structural development, a system of countercathexes is formed which controls not only the drive from which it originated, but all drive discharge. This is a result of the integration by the ego of the defensive energy distributions into an organized group of functions. The drive cathexes themselves differentiate into 1) those still tied directly to the instinctual object (not neutralized), 2) those which are discharged as affect (signals of pleasure/pain), and 3) those which cathect memory traces, i.e., perform the work of conceptual thought and are bound and neutral. The original instinctual energy is altered and

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[15] Ibid., p. 220.

[16] D. Rapaport, "Toward a Theory of Thinking," p. 697.

divided into such drive-derivatives by the process of binding, and the organization and development of the secondary process remains dependent upon the availability of neutral derivatives for objective reality testing. The relation of consciousness to neutralized cathexes and to the genesis of secondary process organization will be discussed below.

Let me first summarize Freud's account of the origin of conceptual thought, as presented by Rapaport. Due to a delay in instinctual satisfaction, which is dependent upon the presence of the appropriate object, drive tension (need) arises. A memory associated with prior gratification is cathected with the concentrated energy of the drive and as a consequence attains hallucinatory intensity. This process is called ideation. However, physical frustration is not relieved and it becomes necessary to search for the object in the external, rather than the internal, world. To serve this purpose, drive discharge is voluntarily delayed and utilized in action. Ideation is superceded by a mental process of "searching" for the object through the organization of memories and ideas around the object's relation to reality. The qualities of pleasure and pain are minimized (repressed) and the qualities of reality partially replace them. Thought arises as a semi-autonomous process, but one that remains motivated by the instinctual desires.

The Relation of the Secondary Process to Consciousness

It has been pointed out that ideation comes to consciousness through a cathexis by drive energy. However, in the secondary process consciousness no longer occurs as the result of tension discharge. Instinctual energy has been countercathected, repressed, and avareness requires the function of attention cathexis (hypercathexis). Even mental contents which have drive cathexis and no countercathexis do not necessarily become conscious if they are not hypercathected. Such ideas are referred to as preconscious.[17] The energy source of hypercathexis has been postulated as neutralized drive energy which is not bound into a defensive structure (see Chapter 2), and as identical with the source of countercathexes. This makes plain the intimate relation between the internalization of delay in gratification and the phenomenon of avareness. The delay gives rise to both the secondary process and the energy source of hypercathexis; they are generically related.

The function of attention is sometimes attributed to the preconscious as a system.

> The system Preconscious not merely bars access to consciousness, it also . . . has at its disposal for distribution a mobile cathectic energy, a part of which is familiar to us in the form of attention.[18]

One assumes that the balance of this energy is that employed in objective thought. In other passages, Freud uses the metaphor of consciousness as a sense organ which distributes attention

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[17] S. Freud, "The Unconscious," p. 192.

[18] Idem, The Interpretation of Dreams (1900a), Standard Edition, vols. 4 and 5, p. 615.

cathexes itself.[19] Consciousness can be stimulated originally from two sources; the perceptual system and the excitations of pleasure/pain from the internal bodily needs. Preconscious impressions--memories, concepts--retain no quality which can arouse consciousness unless cathected by the drive. In order for thought to follow associative paths through memories uncathected by a drive, they have to re-acquire perceptual qualities, and Freud asserts that this is done through establishment of speech symbols.

> . . . the Preconscious system needs qualities of its own which could attract consciousness, and most probably received them through the connection of the preconscious processes with the memory-system of speech symbols, which was not devoid of quality. Through the qualities of this system, consciousness, hitherto only a sense-organ for perceptions, now becomes also a sense-organ for a part of our thought processes.[20]

He later modified this view somewhat,[21] but it is of importance for a psychoanalytic theory of language, and will be discussed at length below. It corresponds to the experiential association of thought and word which is a strong support for the equation of consciousness and rationality.

Freud never re-integrated his theory of consciousness into the structural system of the ego and the id. The concept of

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[19] Ibid., p. 574.

[20] Ibid.

[21] "The presence of speech gives a safe clue to the preconscious nature of the process . . . but the connection with a verbal memory trace cannot be considered a prerequisite." S. Freud, An Outline of Psychoanalysis (New York: Norton, 1949), p. 42.

consciousness as a system was discarded for reasons similar to those which displaced the unconscious as a substantive entity. It became obvious that some contents of thought which were structurally conscious (displayed secondary organization) were not subjectively conscious. Even in his paper "The Unconscious" Freud acknowledges this:

> . . . consciousness stands in no simple relation either to the different systems or to repression. The truth is that it is not only the psychically repressed that remains alien to consciousness, but also some of the impulses which dominate our ego . . .[22]

The next step would seem to have been the absorption of the function of consciousness by the ego as a substructure of energy distribution, and as G.S. Klein points out, the task of ego psychology is to integrate consciousness as an energy disposition with structural aspects of the ego which influence the deployment of attention (e.g., the defenses).[23]

Its relationship to the secondary process specifically is a complex one. It has been pointed out by E. Kris that preconscious processes which never reach awareness can be a major stage in creative thinking. From this observation it can be assumed that awareness and secondary organization are not to be equated. Kris refers to Freud's explanation of wit as the temporary giving over of a preconscious thought to unconscious elaboration, and labels such phenomena "regression in the service of the ego."[24]

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[22] Idem, "The Unconscious," p. 192-93.

[23] G.S. Klein, "Consciousness in Psychoanalytic Theory: Some Implications for Current Research in Perception," Journal of the American Psychoanalytic Association 1 (1959):15.

[24] E. Kris, "On Inspiration. Preliminary Notes on Emotional Conditions in Creative States," International Journal of Psychiatry 30 (1939):377-88.

Such regression apparently plays an important part in inspiration and creativity. However, it does not serve as evidence for unconscious secondary processes, but rather for the interaction of primary modes with conscious thought.[25] This suggests that there may be a close correlation between secondary organization *per se* and awareness. Rapaport refers to another aspect of preconscious thought which can more properly be identified as secondary organization. That is the automatic sorting out and associative linking of ideas, memories, and images which occurs outside awareness. In fact, awareness can hinder such automatic routines.[26]

Kris raises a second issue which supports Freud's contention that consciousness is an experiential quality not uniquely tied to the secondary process.

> Preconscious mental processes are extremely different from each other both in content and in the kind of thought-processes used; they cover continua reaching from purposeful reflection to fantasy and from logical formulation to dream-like imagery.[27]

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[25] Freud describes it thus: "Cooperation between a preconscious and an unconscious impulse, even when the latter is subject to very strong repression, may be established if the situation permits of the unconscious impulse operating in harmony with one of the controlling tendencies. . . . the repressed activity being admitted as a reinforcement of the one intended by the Ego . . . the unconscious becomes Ego-syntonic. . . . The effect of the unconscious in this cooperation is unmistakable; the reinforced tendencies reveal themselves as, in spite of all, different from the normal--they make possible achievements of special perfection." "The Unconscious," p. 194-95.

[26] D. Rapaport, "Toward a Theory of Thinking," p. 719.

[27] E. Kris, "On Preconscious Mental Processes," in Organization and Pathology of Thought, ed. D. Rapaport (New York: Columbia University Press, 1951), p. 477.

In other words, fantasy, which tends to primary organization of content, is also capable of reaching consciousness. Thus consciousness is associated with primary modes, not only via drive cathexis (hallucination), but within the "normal" range of mental content, via hypercathexis.

G.S. Klein suggests that the various patterns of hypercathexis which result from different countercathectic organizations determine the quality of conscious experience, that different patterns of distribution constitute different states of consciousness.[28] Types of energy distributions are characterized by 1) the systems involved (perception, memory, etc.); 2) degree of binding; 3) degree of neutralization; and 4) countercathectic structures channelling the drive component. He says,

> Perception, for all its immediacy and the experience of direct contact with things-in-themselves which it gives in contrast to imaginal modes of experience, is also a cognitive event, framed by a context of meanings or concepts. Both the *capacity* to 'know' objects in this distinctive experience of perceptual contact and the *meaning* given by perception will vary from one state to another.[29]

In other words, conscious experience itself is not a simple event but varies along a continuum from primary to secondary modes. Kris also indicates that such a continuum exists and links it specifically to the degree of neutralization of the cathectic energy utilized in a given instance.

> The ego, we assume, has two kinds of bound energy at its disposal, neutralized energy, and libido and aggression in their not neutralized form. Fantastic, free wandering thought-processes tend to discharge more libido-

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[28] G.S. Klein, "Consciousness in Psychoanalytic Theory: Some Implications for Current Research in Perception," p. 16. This will be discussed more fully in Chapter 4.

[29] Ibid., p. 19.

> aggression and less neutralized energy. In fantasy production . . . not only the id is involved, naturally the superego and narcissistic strivings of the self play their part.[30]

Thus the preconscious ego can encompass various forms of thought organization.

Rapaport offers an explication of consciousness which is rather similar to Klein's. He views consciousness as an organization (perhaps similar in sense to the organizations ascribed to the primary and secondary processes), or rather as a series of possible organizations of experience. The criteria which distinguish these organizations are 1) use of visual imagery; 2) use of verbalization; 3) degree of self-awareness; 4) explicit vs. implicit meaning in the perceptions involved; and 5) use of condensation and displacement.[31] It appears that Rapaport is merely describing the fluid transition between primary and secondary processes, the intermediate stages of which are theoretically infinite, and which move from dream, to hallucination, to fantasy, revery, daydream. His criteria obviously overlap with Freud's criteria of primary vs. secondary mentation, for example, the presence or absence of visual imagery, condensation/displacement, and verbal content.

Freud's original formulations excluded the primary process from the preconscious and therefore from the ego and ultimately from consciousness. He wrote,

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[30] Kris, "On Preconscious Mental Processes," pp. 485-86.

[31] D. Rapaport, "Cognitive Structures," in Contemporary Approaches to Cognition, ed. J.S. Bruner (Cambridge: Harvard University Press, 1964), p. 169.

> The processes of the system Preconscious display, no matter whether they are already conscious or only capable of becoming conscious, an inhibition of the tendency of cathected ideas towards discharge. When a process moves over from one idea to another, the first retains a part of its cathexis and only a small part undergoes displacement. Displacement and condensation after the mode of the primary process are excluded or very much restricted.[32]

However, as stated above, he also recognized the limitations of identifying a mode of organization with consciousness or unconsciousness. In the preceding discussion, it is clear that psychoanalysis has developed the concept of consciousness on the lines suggested by Freud's structural theory, and has avoided the problems of the topographic system. As a result, the strict primary/secondary process dichotomy has been supplemented by the idea of energy distributions as structured states of awareness which form a continuum from dream to problem-solving activity. This formulation, of course, can be used to describe in detail the varied and continuous interpenetration of primary and secondary modes, and in the next chapter I shall attempt to take advantage of this. But first I will undertake an examination of the secondary process and its relation to language, in hope that this will further clarify the role of conscious awareness in the secondary mode of mentation.

Language and the Secondary Process: organization and consciousness

Freud's interest in language originated prior to the elaboration of psychoanalytic technique, with his neurological

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[32] S. Freud, The Interpretation of Dreams (Standard Edition), p. 100.

studies in aphasia.[33] In fact, it was in the latter field that he first received widespread success and recognition, as is made clear by E. Jones' biographical study of his career.[34] It is only regrettable that he did not express such an explicit interest in language after his transition to psychological research. Though he does refer to language, the passages are scattered and brief and the treatment far from systematic. They are contained in both his earliest and his last publications and, as is inevitable, show a theoretical evolution regarding the function of language, particularly in regard to the relation between consiousness and verbal traces. In Freud's writings, language is usually associated with the subject of consciousness, or with the description of the secondary process; thus it offers a possible link between the two phenomena.

As has been indicated in the foregoing discussion, Freud's description of language in The Interpretation of Dreams links it directly to consciousness.

> For the mental processes are not in themselves qualitative except for the excitations of pleasure and pain which accompany them: which, as we know, must be kept within limits as possible disturbers of thought. In order to endow them with quality, they are associated in man with verbal memories, the qualitative residues

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[33] See J.C. Marshall, "Freud's Psychology of Language," in Psychoanalysis Scientific Method and Philosophy, ed. S. Hook (New York: New York University Press, 1959), for a discussion of nineteenth century neurology and its influence on Freud's theory of language. pp. 349-65.

[34] E. Jones, The Life and Work of Sigmund Freud, ed. and abridged by L. Trilling and S. Marcus (New York:Basic Books Publishing Co., 1961). First published as Sigmund Freud: His Life and Work, 3 vols. (London: Hogarth Press. 1953-57).

> of which suffice to draw upon them the attention of consciousness, which in turn endows thought with a new mobile cathexis.[35]

A passage from "The Unconscious" reflects this concept:

> We now seem to know all at once what the difference is between a conscious and an unconscious presentation . . . The conscious presentation comprises the presentation of the thing plus the presentation of the word belonging to it, while the unconscious presentation is the presentation of the thing alone. . . . the system Preconscious comes about by this thing-presentation being hypercathected through being linked with the word-presentations corresponding to it. It is these hypercathexes, we may suppose, that bring about a higher psychical organization and make it possible for the primary process to be succeeded by the secondary process. . . .[36]

In both of these passages words are inferred to be a hypercathexis of a thing; the first speaks of endowing thought "with a new mobile cathexis" while the second explicitly links hypercathexis to verbal qualities. Not only that, but the possibility of transition from primary to secondary process is causally related to verbal hypercathexis. Why should words be necessary to bring concepts to awareness? The Ego and the Id contains a possible answer.

> The part played by verbal images now becomes perfectly clear. By their interposition internal thought-processes are made into perceptions. It is like a demonstration of the theorum that all knowledge has its origin in external perception.[37]

Apparently, the perception of internal reality is achieved by the same energy source or energy organization as that which perceives

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[35] S. Freud, The Interpretation of Dreams (trans. A.A. Brill), p. 546.

[36] Idem, "The Unconscious," p. 202.

[37] Idem, The Ego and the Id (1923b), Standard Edition, vol. 19, p. 26.

external reality. It necessitates thought processes which can be "seen" in a similar way, i.e., processes which have sensory qualities. These qualities, perhaps, constitute what is usually called the significance of a word, and Freud would thus be suggesting that verbal symbols originally derive their meaning from the drives, as does perception. It remains somewhat mysterious precisely why thought should be non-qualitative in itself. Freud offers a vaguely topographic explanation in "The Unconscious," "Probably . . . thought proceeds in systems so far removed from the original perceptual residues that they have no longer retained anything of the qualities of those residues. . . ."[38]

However, words extend meaning beyond a previous image or sensory experience. They also make possible a consciousness of the relationships of associations among contents.

> . . . by being linked with words, cathexes can be provided with quality even when they represent only *relations* between presentations of objects and are thus unable to derive any quality from perceptions. Such relations, which become comprehensible only through words, form a major part of our thought-processes.[39]

Here Freud indicates that the hypercathexis provided by verbal traces is not to be simply identified with perceptual qualities, but introduces new qualities of its own. Such an addition extends the applicability of his theory beyond concrete nouns (things perceived) to abstract relational concepts. This is supported by his comments, quoted previously, that language raises the level of psychic organization and introduces the

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[38] Idem, "The Unconscious," p. 202.

[39] Ibid.

possibility of secondary organization which utilizes spatial, temporal and causal relations. These relations cannot be represented easily with images (e.g., in dream presentations). One may assume that such relations are conceptually formulated as functional concepts as a result of experience, and that words merely supply a method of representation not available with concrete images.

Discussion to this point would seem to draw direct links among consciousness, the secondary process, and language, which was indeed the case in Freud's earlier publications. This view was somewhat altered by the introduction of the structural theory in which consciousness was relegated to a position of less importance. In "The Unconscious" Freud states that consciousness and verbal presentations cannot be equated,[40] but it is put most clearly in An Outline of Psychoanalysis.

> It would not be correct, however, to think that connection with the mnemic residues of speech is a necessary precondition of the preconscious state. On the contrary, that state is independent of a connection with them, though the presence of that connection makes it safe to infer the preconscious nature of a process. . . . The preconscious state, characterized on the one hand by its connection with the speech residues, is nevertheless something peculiar, the nature of which is not exhausted by these two characteristics.[41]

Freud fails to answer the question which remains as to the exact relation adhering between language, consciousness, and

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[40] ". . . being linked with word-presentations is not yet the same thing as becoming conscious, but only makes it possible to become so . . ." Idem, "The Unconscious," pp. 202-3.

[41] Idem, An Outline of Psychoanalysis, p. 162.

secondary process organization, but from his several references one can infer a partial answer. There are two major functions of verbal symbols: 1) to replace the strong affects of pleasure/pain with qualities of their own (as signals), and 2) to endow thought processes with these qualities. The first function is the basis for a semi-autonomy of thought which, as we have seen, is essential to the development of the secondary process, while the second function makes possible a hypercathexis of consciousness. *Thus language itself is the link between secondary organization and awareness in that it, by its very nature, gives rise to both.*

However, the linkage is not absolute; the primary process also performs associations with words as well as images; for example, Freud's own dreams reported in The Interpretation of Dreams. And as mentioned above, the secondary process often occurs at a preconscious level and can also be repressed into an unconscious state (e.g., fantasies). Speaking of language as an organization rather than isolated words, it is much more closely related to the secondary process than either of these is to consciousness as an experiential quality.

Language, Learning, and the Reality Principle

There are several intriguing questions touched upon in the foregoing discussion which cannot be answered here; for example, the role of language in the binding (via hypercathexis) and the neutralization of instinctual energy (via the replacement of affect) which play such a crucial role in the transition from primary to secondary mentation. Instead it seems necessary to

elucidate the relation of the secondary process, through language, to the reality principle. The preceding section focused on the function of language; the following will supplement it with a genetic and structural approach.

Peter Wolff has pointed out that psychoanalysis was influenced strongly by the associationist school of thought, particularly as regards language and memory, and that this strain of theory is incompatible with psychoanalysis' developmental principles.[42] Wolff says,

> Psychological experience shows memory (that is, the persisting force of an experience) depends on a factor that is described as the 'magnitude' of an impression and on the frequency of the recurrence of the same impression.[43]

This passage enumerates contiguity, intensity, and frequency as the laws of memory and learning, classic examples of the mechanist associationist approach. However, in 1900 these laws were extended by Freud to include association by similarity, which established an active influence of the organism on the environment by postulating a selective principle on a conceptual level. The principle of association by similarity can be understood as the basis of Rapaport's drive organization of memory, wherein memories accumulate around an experience of satisfaction. The drive, therefore, are organizing principles of thought which represent innate predispositions or tendencies, and contradict a

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[42] P.H. Wolff, "Cognitive Considerations for a Psychoanalytic Theory of Language Acquisition," in Motives and Thought. Psychoanalytic Essays in Honor of David Rapaport, ed. R.R. Holt (New York: International Universities Press, Inc., 1967). Psychological Issues, Monogr. 18-19, pp. 303.

[43] Ibid., p. 381.

simple operant conditioning theory of human learning.

Language, of course, arises with the appearance of the reality-oriented organization of experience. Ideation, its predecessor, is considered to operate with associations which are established according to contiguity, intensity, and frequency, but which are determined by the organizing principles of the drives. As Wolff says, ". . . cyclical fluctuations of drive intensity determine the occasions when sense impressions are recorded, and give meaning to the objective events as experiences of pleasure and pain . . ."[44] But for the reality principle to assert itself, different categories of thought, eventually mediated by language, must appear. How is it that this occurs; what is the source?

Wolff turns to two people in examining this question, and in his discussion indicates some limitations of Freud's theory of language. Piaget's sensorimotor developmental sequence again appears as a relevant data base for supplementing psychoanalysis' formulations. Piaget posits various reflex schemata (e.g., sucking) which are gradually developed and differentiated into a repertoire of behaviors. At the same time mental activity is developed vis a vis these activities, as the child learns to distinguish between self and non-self, between action and the object of action, and finally between word and object. The reflex schemata provide organizational modes for the acquisition of concepts and language, and, though Wolff does not do so, can be

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[44] Ibid., p. 307. Note that he is speaking of very early learning experience.

considered analogous to Freud's concept of the instincts. The drive organization of memories is basically an action-schemata. This similarity is indicated in Wolff's own statement, "Experience is fixed in memory not as a record of isolated events, but as part of the schema of action to which it is related by 'similarity'."[45]

Wolff attempts to show that Freud depends upon a notion of isolated memory traces of words and things and then fails to provide an explanation of the establishment of reality-oriented interconnections among them. In doing so, Wolff overlooks the influence of reality on the drives as the first source of ideation, and as the further source of memory organization. He also underestimates the 'action' component of the drives, and their similarity to Piaget's reflexes.

A second area of criticism raised here has been discussed in the preceding chapter, but I will relate it now specifically to language acquistion. That is the possibility of ideation (hallucination) in the infant. Wolff comments,

> While psychoanalytic theory presupposes the initial separateness of sensory traces of words and 'ideas', sensorimotor theory emphasizes the proposition that words and things (or, more generally, their referents) at first consitute one global unity.[45]

As we have seen, in psychoanalysis language is a substitute for action, whereas in Piaget's thought it is rather an integral part of action. This offers a natural explanation for the association of word and thing which does not depend on conditioning. However, it is not clear to me that this is really so different from Freud's conception. Hallucination is the first formation of a

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[45] Ibid., p. 336.

functional concept which includes sensory and motor components and from which language arises, and is not, as is sometimes assumed, necessarily the mental perception of a single object. Freud's mistake seems to be in describing one type of organizing principle--instinctual--and neglecting others which have since been elucidated by ego psychology; for example, Hartmann's primary ego functions such as perception, motility, etc.[46]

Erik Erikson has introduced the concept of organ modes which can also form organizing factors in development.[47] Wolff suggests that the concept can be used to replace the associative laws of contiguity, intensity, and frequency, and to retain the motivational aspects of the instinct theory. A mode refers to "formal properties or physiological functions" such as ingesting or spitting out, retaining or rejecting.[48]

The child inherits such dispositions and tendencies which later become categories of thought. They are naturally related to reality via their functions, and thus thought also would be reality-oriented from its inception. Again, this does not differ greatly from Freud's theory of the development of ideation, except in one respect: it more easily explains the genesis of the reality principle. Freud's theory of the instincts emphasizes the non-adaptive nature of the pleasure principle, but neglects

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[46] H. Hartmann, Ego Psychology and the Problem of Adaptation.

[47] E. Erikson, Identity and the Life Cycle; Selected Papers (New York: International Universities Press, Inc., 1959). Psychological Issues, Monogr. 1.

[48] P. Wolff, "Cognitive Considerations for a Psychoanalytic Theory of Language Acquisition," p. 331.

the adaptive potential of the drives; that is, that they cannot be conceived without postulating objects in the external world upon which they perform a function oriented towards survival, i.e. adaptation.

Concerning language, two observations which somewhat alter, though do not contradict, Freud's theory can be drawn from the preceding discussion. First, that ideation is not merely a mental representative (equivalent to an idea), but is part of a global experience of satisfaction containing sensory and motor elements. Thus, concepts and words would by implication develop from such contents. Second, and more important, drive organization or mentation is from the first potentially related to reality in its object and aim. This makes clear the genetic relation between mentation and reality, and obviates the necessity for assuming an abrupt transition from primary to secondary thought.

Categories of thought and language are founded in this reality-relation. The intimate relation of the secondary process to language makes these observations applicable to the genesis of secondary organization as well. However, one must always take care not to lose sight of the nature of the primary process and the importance of the pleasure principle in the attempt to redress a possible under-emphasis of the secondary process on the part of Freud. In the following chapter I will discuss in detail the interaction of the two organizations, and hopefully describe a point of balance or harmony between them.

CHAPTER FOUR

INTERACTION OF PRIMARY AND SECONDARY PROCESSES

The genetic relation of primary to secondary process has already been elaborated; it is impossible to discuss the origin of one mode without mentioning the other because of their common instinctual source and continuous developmental interactions. The secondary process does not merely replace the primary at some given maturational point, but arises from it and is never totally emancipated from its characteristics. Though there is some controversy over the temporal precedence of the primary organization, it seems clear, even assuming an intial undifferentiated mental state from which both proceed, that the primary mode develops more fully before the secondary begins to be evident. Freud's comment does not completely clarify his position:

> When I termed one of the psychic processes in the psychic apparatus the *primary* process, I did so not only in consideration of its status and function, but was also able to take account of the temporal relationship actually involved. So far as we know, a psychic apparatus possessing only the primary process does not exist, and is to that extent a theoretical fiction; but this at least is a fact: that the primary processes are present in the apparatus from the beginning, while the secondary processes only take shape gradually during the course of life, inhibiting and overlaying the primary, whilst gaining complete control over them perhaps only in the prime of life. Owing to this belated arrival of the secondary processes, the essence of our being, consisting of unconscious wish-impulses, remains something which cannot be grasped or inhibited by the

> preconscious; and its part is once and for all restricted to indicating the most appropriate paths for the wish-impulses originating in the unconscious. These unconscious wishes represent for all subsequent psychic strivings a compulsion to which they must submit themselves, although they may perhaps endeavour to divert them and to guide them to superior aims.[1]

The first portion of this passage which concerns the temporal relation between the two processes appears to be self-contradictory. Freud clearly states that no organism exists which uses only a primary process, yet he also asserts that it appears prior to secondary thought. He does hint at a resolution, whether intended or not, by saying that the secondary processes "take shape gradually." Perhaps Freud implies that both originate simultaneously, but the secondary mode originates only as a potential. Whichever genetic relation is meant to apply, it is clear that the two modes are related phenomena, if in no other way, in the service of the pleasure principle.

The second portion of the above-quoted passage refers to the basic assumption of this paper, that the primary and secondary processes continue to interact throughout adult life and that a theory of thought and learning must account for this ubiquitous interpenetration. Previous chapters have focused on genetic and economic issues which are the foundation of such interaction; the following discussion will examine dynamic and structural considerations. Memory and perception are now considered by ego psychology to be inborn structures or organizations upon which the ego is eventually founded. Thus they

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[1] S. Freud, The Interpretation of Dreams, in The Basic Writings of Sigmund Freud, ed. and trans. A.A. Brill (New York: Random House, Inc., 1938), p. 536.

will be of obvious importance to a discussion of structural relations between primary and secondary modes. Such innate organizations of experience are the *common* medium by which thought processes, whether primary or secondary, form a contact between inner and outer reality.

Memory is perhaps the more important of the two in considering interactions between primary and secondary modes; for in the relatively normal individual, it is memory which exhibits most often the motivational influence of the drives, and which forms the basis for instinctual distortion of perception.[2] As Rapaport says, "Psychic phenomena of the present can be determined by the past only to the degree that the past survives."[3] For an adult the present is dominated by the secondary process, and instinctual drives are often mediated by memory. Psychoanalytic technique assumes that it is unconscious memories which constitute the motivational basis for neurotic symptoms. But here it must be pointed out that 'memory', and 'past', in the sense of no-longer-existent, are not to be equated. The past is a dynamic past, and memory is not a static but a dynamic system. This is the characteristic which makes it so important to primary/secondary process interaction.

In the preceding chapter I mentioned briefly Rapaport's concept of the drive organization of memory. It is characteristic

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[2] See S. Freud, Wit and Its Relation to the Unconscious, in The Basic Writings of Sigmund Freud, ed. and trans. A.A. Brill, for examples.

[3] D. Rapaport, Emotions and Memory (New York: International Universities Press, Inc., 1971), p. 140.

of the primary model of cognition in which all aspects of the gratification of a drive are related in memory to that particular drive. The originally diffuse experience of satisfaction, with increasing perceptual sophistication, eventually differentiates into multiple images which are all mental representations of the drive, and as such are interchangeable. The equivalence of these memories makes it possible for the mechanisms of condensation and displacement to operate freely, and, in other words, is compatible with the primary process.[4] In Studies on Hysteria Freud delineated three types of memory organization: 1) a "linear chronological arrangement," 2) those "concentrically stratified around the pathogenic nucleus," and 3) "the arrangement according to the content of thought, the connection which reaches the nucleus through the logical threads, which might in each case correspond to a special, irregular and manifoldly devious road."[5] It is the second of these that probably corresponds most closely to the drive organization of memories, but it should be noted that the third is also motivated by instinctual needs. The latter is quite plainly operative after the institution of the secondary process, yet seems to be influenced by the "devious" mechanisms of the primary process. It will be important to our discussion later.

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[4] D. Rapaport, "On the Psychoanalytic Theory of Thinking," International Journal of Psychoanalysis 31 (1950):163.

[5] J. Breuer and S. Freud, Studies on Hysteria (1895), Standard Edition, vol. 2, pp. 218-19.

Rapaport describes the transition from a drive to a conceptual organization of memory in terms of an experience of frustration which gives rise to an internalization of the delay of gratification (see Chapter 3).[6] This internalization of delay is usually called repression or countercathexis, and in turn makes possible the development of the secondary process. A second causative factor contributing to conceptual memory organization is the proliferation of discrete images which represent drive objects.[7] Images become associated with more than one drive and thus are freed from the strict drive-organization of memory. As a consequence of the relative associative freedom of such images, another system of associations can begin to develop based on experience and reality relations such as space, time, and contiguity. How this comes about relates back to repression.

When frustration occurs, countercathexis is established as a raising of the discharge threshold so that the affect and sometimes the ideational representative of the drive do not become conscious. The countercathectic distribution of energy by necessity becomes a sort of institution or structure in order to maintain repression, and as such acquires a semi-autonomy, as mentioned in Chapter 3. Just as the drive was a motivation, so the defense against it can be called a motivation, even if it is only avoidance, for example, reaction formation.

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[6] D. Rapaport, "The Conceptual Model of Psychoanalysis," in Psychoanalytic Psychiatry and Psychology, Clinical and Theoretical Papers, eds. R.P. Knight and C.R. Friedman (New York: International Universities Press, Inc., 1954), p. 232-33.

[7] Idem, "Toward a Theory of Thinking," in Organization and Pathology of Thought (New York: Columbia University Press, 1951), p.696.

In other words, defenses create what are often termed drive-derivatives, or drives transformed into more reality-oriented manifestations. They differ from repressed drives in that they are recognized by the ego (can achieve consciousness), are capable of sustaining frustration, and are only discharged when the object is available (i.e., do not follow the mechanisms of primary process organization).[8] All these alterations are related to the processes of binding and neutralization which occur when psychic energy is stabilized into countercathectic structures.[9]

The drive derivatives, though neutralized to a degree, can also be peremptory in nature, as are neurotic symptoms, and may become subject to subsequent defensive structures. Freud's idea of a second inhibition between the preconscious state and consciousness suggests this, though not directly.

> . . . derivatives of the Unconscious can . . . achieve a high degree of organization and reach a certain intensity of cathexis in the Preconscious. When, however, this intensity is exceeded and they try to force themselves into consciousness, they are recognized as derivatives of the Unconscious and are repressed afresh. . .[10]

Presumably this could describe the fate of a motivation, originally established as a countercathexis or defense, which is too closely associated with a drive and as a consequence becomes

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[8] Idem, "The Conceptual Model of Psychoanalysis," p. 234.

[9] See Chapter 2 for a full discussion of binding.

[10] S. Freud, "The Unconscious," (1915e), Standard Edition, vol. 14, p. 193.

inhibited itself. This results in what Rapaport calls "a hierarchic layering of defenses" and serves the function of progressively neutralizing instinctual demands.[11] The increased amenability to delay characteristic of drive derivatives is not fully explained by Rapaport, but can be assumed to be a function of 1) binding, 2) the original reality-orientation of drives towards objects, and 3) the conceptual organization of memory which arises concomitantly with, and brings into operation, the secondary process. Rapaport makes it particularly clear.

> . . . these derivative motivations arise from cathectic distributions which alter the drive's discharge thresholds. In effect, *these alterations of discharge thresholds are intrapsychic representations of facts of external reality*: that is, they modify the drive discharge in the direction of tension maintenance, to discharge only in conformity with reality.[12] (Italics mine.)

In internalizing the delay of gratification, the organism is engaging in its earliest learning experience in that it is accommodating to reality and absorbing that accommodation as a permanent acquisiton. This process of information retention is also known as memory, and thus *the origin of the reality-orientation of memory appears to be almost synonymous with delay of gratification.*

The development of a motivational hierarchy represents the structuralization of the interaction between the primary and secondary processes. Instinctual energy becomes inhibited by countercathectic distributions and is discharged in a different form; but such a description neglects the mutual control which

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[11] D. Rapaport, "The Conceptual Model of Psychoanalysis," p. 234.

[12] Ibid., p. 235.

is exercised within the hierarchy. The drives are still dynamically involved, and may be expressed through the derivative motivation characteristic of a controlling defense.[13] All such motivations share the purpose of energy discharge with the instincts but simultaneously maintain a countercathexis, or tension-producing structure. Drive derivatives vary in neutralization and binding, and even those closely associated with the instincts may find an outlet through secondary process thought. Thus drive energy influences motivation, and consequently thought, through two channels: 1) derivatives which are relatively direct expressions of a drive, and 2) the genetic connection between basic drives which are still active and derivative drives which are triggered by the original needs.

Derivative motivations ensure that thought is not dependent upon a cyclical drive in order to function.[14] As mentioned previously, derivative motivations operate to maintain tensions, the higher potential necessary to raise discharge thresholds. Discharge is never complete and thus need remains controlled but constant. Objects of derivative drives become motivational, as do objects which are encountered in the search for a need-satisfying object. As Rapaport puts it, ". . . means to reach the end object attain part valences of the end object."[15]

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[13] See Idem, "Toward a Theory of Thinking," p. 704.

[14] This conceptualization differentiates psychoanalysis from a pure tension-reduction model of motivation which has always proved unsatisfactory as a theoretical approach to learning.

[15] D. Rapaport, "The Conceptual Model of Psychoanalysis," p. 236.

Such a temporary valuation of means is synonymous to saying that the secondary process can cathect whatever objects are necessary to achieve eventual satisfaction. The links in the associative chain leading to need gratification assume the pleasurable valuation of the desired end, allowing secondary process thought to function, semi-autonomous from the dominance of the pure pleasure principle. Thought under the secondary mode can stimulate itself, whereas the primary process is dependent upon drive cathexis for activation. The independence of drive derivatives is basic to ego organization which comes to control the resulting neutralized energy and defense structures.

The structuralization of the motivational hierarchy is an important determinant of the form of thought organization adopted by an individual. Countercathectic distributions established to repress a single drive probably come to control all drives, due to the supra-organizing tendency called the ego.[16] The degree of flexibility exhibited by this organization will influence the scope of memory and perception available to secondary process mentation for reality-oriented thought. The autonomy of thought from the pleasure principle is thereby lessened, because so much of its potential content continues to be under its dominance. On the other hand, if the defense system is not characterized by repressive tactics, secondary thought itself can become a strategy for "binding" or neutralizing motivations through hypercathexis, and is thus

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[16] Idem, The Structure of Psychoanalytic Theory. A Systematizing Attempt (New York: International Universities Press, Inc., 1960), Psychological Issues, Monogr. 2.

enhanced.[17] If drive energy is not fully neutralized, thought becomes a relatively direct vehicle for instinctual discharge. Rationalization substitutes realistic end-objects for the original drive object and achieves gratification. However, this mechanism appears to be quite similar (if not identical) to the primary process mechanism of displacement, and as such may represent a transitional interpenetration between primary and secondary process. Rationalizing mental activity is often of a compelling and impuslive nature; in the following pages I will discuss G. Klein's model of peremptory ideation,[18] which incorporates all mentation in the genre of rationalization, with varying degrees of autonomy.

Klein: the Unity of Cognition and Desire

Klein has constructed a scheme of mentation which clearly shows the influence of cybernetics. It is basically a cognitive feedback loop originating in a "primary region of imbalance" which gives rise to facilitative and inhibitive impulses leading to 1) action in the form of thought, speech and/or behavior; or 2) repression.[19] Mental events and affective states are

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[17] Rapaport calls this intellectualization, but does not explain the mechanism of binding implied. I can offer only the tentative hypothesis of hypercathexis as the energy which binds the association of a drive to a mental content. This, however, does not account for neutralization unless one equates the two phenomena. There is still a gap in our understanding of secondary modes at this point.

[18] G.S. Klein, "Peremptory Ideation: Structure and Force in Motivated Ideas," in Motives and Thought. Psychoanalytic Essays in Honor of David Rapaport, ed. R.R. Holt (New York: International Universities Press, Inc., 1967), Psychological Issues, Monogr.18-19.

[19] Ibid. See diagram on p. 89.

ingeniously unified by this model, expanding Freud's theory of the drives to include object relations and other sources of gratification which become primarily mental rather than somatic. As Klein points out, investigation of the instincts' role in pathology tended to occupy a central place in clinical observation; for example, during Freud's formulation of the libidinal stages of development, and later, with his interest in Eros and Thanatos. However, in his early work with Breuer, Freud began with the insight that it was a repressed *idea* or memory which constituted the organizer of neurotic behavior. Thus the cognitive nature of motivation is a basic assumption of psychoanalyiss which needs to be re-elaborated.

Klein stresses that the concept of psychic energy is one that is qualitatively unspecified; i.e., does not attribute direction or goal-orientation to its content. Rapaport and Gill support this in their paper "The Points of View and Assumptions of Metapsychology." ". . . since energies which (by definition) are directionless quantities cannot account for directional phenomena, we need--just as physics does--both energy and force concepts."[20] In discussing the sexual instinct Freud draws such a distinction.

> This libido we distinguished from the energy which is at the basis of the psychic processes in general as far as their special origin is concerned, and we thus attribute to it also a qualitative character . . . In separating libidinal from other psychic energy, we give expression to the assumption that the sexual processes of the organism are differentiated from the nutritional

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20 D. Rapaport and M.M. Gill, "The Points of View and Assumptions of Metapsychology," International Journal of Psychoanalysis 40 (1959):157.

> processes through a special chemism. . . . We thus formulate the concept of a *libido-quantum*, the psychic representative of which we designate as the ego-libido.[21]

Psychic energy as such is purely quantitative and receives its quality from a "chemism", or as Rapaport and Gill suggest, from the affect-discharge channels or particular organs which utilize it.[22] Klein echoes this:

> Motivation is a matter of accounting for changes in direction of behavior, and the problem seems more manageable if we start out from the assumption, not that energy changes in quality, but that one and the same physical (neural) energy has changed its direction in traversing the structures that organize behavior.[23]

Klein's use of the word structures, of course, broadens the statement of Rapaport and Gill to include the possibility that defenses, anticipations, and cognitive styles (when matured) can influence the quality of a motivation, with which the previous section of this chapter agrees.

Here the importance of cognitive elements for motivation is introduced. Freud himself attributed the organically directed energies to the instincts and postulated that they were the basic motivators of behavior. Klein, however, emphasizes a point which Freud also made, that instincts are only knowable through their representatives.[24] Max Schur theorizes that one should speak of

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[21] S. Freud, Three Contributions to the Theory of Sex, in The Basic Writings of Sigmund Freud, ed. and trans. A.A. Brill, p. 611.

[22] D. Rapaport and M. Gill, "The Points of View and Assumptions of Metapsychology," p. 155.

[23] G.S. Klein, "Peremptory Ideation: Structure and Force in Motivated Ideas," p. 85.

[24] Ibid., p. 84.

an instinct or drive only after it becomes represented by a wish, a cognitive schema for a somatic impulse.[25] He also points out that in the theory of anxiety as a signal for the institution of defense, Freud established a very close link between cognition and affect.[26] The affect of anxiety is linked to an awareness of danger or pain based on memory, perception, and associations established by the ego. Thus the experience or repression of anxiety is involved in a cognitive judgment. Klein makes this very clear.

> Inasmuch as motivation involves knowledge, it is cognitive. It lends significance and meaning to what we see and do. . . . Conversely, in so far as cognition has direction, it is motivated. A motive is consequential, and consequences involve ideational residues of actions, of affects, and of thoughts--all cognitive matters . . . The matter of motives in cognition is not one of motives 'interacting' with cognition. To the extent that a thought records a directed relationship of knower to object, to event, to self, and to other, it is a unit of motivation.[27]

I emphasize the point because it is of significance to the interaction of primary and secondary processes. Insofar as drives and affects are expressed through mentation, the primary process will inevitably function to some degree. This is the very basis for the continued interaction of the two modes, and the limitation of conceptual autonomy; cognition continues to be an outlet for drive discharge.

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[25] M. Schur, The Id and the Regulatory Principles of Mental Functioning (London: Hogarth Press, 1967), pp. 68-69.

[26] See S. Freud, Inhibitions, Symptoms and Anxiety (1926d), Standard Edition, vol. 20, for Freud's theory.

[27] G.S. Klein, "Peremptory Ideation: Structure and Force in Motivated Ideas," p. 84.

Klein's model incorporates this fact, and allows for a hierarchy of derivative motivations which can influence thought. The primary region of imbalance corresponds to a need or affective state which arises from internal or external stimulation, e.g. thirst. A more socialized motivation such as need for companionship or self-esteem can also function as a region of imbalance. In either case, Klein visualizes discharge or gratification as the re-stimulation of the area, resulting from a cycle of activity--stimulation, search for the object in reality, perception, action, satisfaction. The excitations in the region are lessened, then terminated, by the satisfactory activity. If the need is merely to see someone or some thing, visual perception will constitute discharge (thus Freud's notion of instinctual needs can be expanded to explain a great range of behavior). Perception will function as inhibitory stimulation of the region of imbalance.

In the case of unconscious or repressed desires, inhibitory stimulation of the excitatory process cannot take place for several reasons. The inhibition of awareness extends to ongoing environmental information which is relevant to fulfilment of the repressed desire. Its significance or association with the desire fails to be comprehended, and thus action is blocked. Accordingly, Klein's feedback loop can never be closed, and excitation continues to arise from the primary region of imbalance. This is a systematic way of elucidating Freud's assertion that repressed contents remain unchanged and active.

Comprehension can be blocked by various strategies of countercathectic dispositions of awareness: perceptual failure, faulty judgments, acausal thinking. However, forgetting is not to be included in this list, for the partial sequence of a thought-train that is activated tends to persist. The repressed ideation is organized around the core drive (c.f. Rapaport's drive organization of memory), and assimilates to itself all mental contents with which it becomes associated, e.g. perceptions, rather than being modified by realistic action. Klein says,

> Arousal of the wish includes primings of representations of gratifying objects, along with anticipatory pleasure. The primings create an assimilative field of sensitization to particular classes of stimulation; objects and events that are encountered become encoded in respect to their relevance to the wish.[28]

This organization would of necessity follow the displacement and condensations of the primary process, and could presumably result in a partial closure of the feedback loop through displacement of one goal onto another.[29]

It can also follow a second path somewhat analogous to hallucination of an object in primary ideation. This is the formation of an unconscious fantasy. The fantasy becomes a motivational train of thought which can function as a "cognitive map" in a fashion similar to other repressed ideation. However

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[28] Ibid., p. 111.

[29] See the preceding discussion of rationalization. Klein gives a lengthy example of this, Ibid., p. 115-17. There are other possible displacements, e.g. of affects to a related experience, or of verbal metaphorical expression of a desire.

the fantasy is a very highly organized selective process which influences ongoing perception and mentation in a systematic fashion. The present is experienced in terms of the past; equivalent situations, persons, places are "discovered" or rather rediscovered. The secondary process or reality-oriented thought is in a sense dominated by the primary process mechanisms of condensation and displacement whereby motivational equivalencies are established. The two modes of thought completely interpenetrate and serve the same end, which is to act out gratification of the need embodied in the fantasy.

Such strongly motivated trains of thought can have a deleterious effect on the learning process. Displacement and condensation are not conducive to perceptual differentiations on a realistic basis, and tend to obscure logical relationships. The qualities of pleasure/unpleasure dominate mentation to the degree that other categories of meaning are overshadowed. Also, the given thought organization is not very accessible to alteration as a result of experience, and thus learning is hampered. However, Klein's model of motivated cognition need not apply only to such an extreme case. The interaction of need and thought is ubiquitous and of varying degrees, and need can be highly adapted to reality (i.e., a highly neutralized drive dderivative). The consequences of unconscious motivation can be a creative reordering of experience which provides a cognitive resolution for an instinctual need. E. Kris takes this point of view.[30] The

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[30] E. Kris, "On Inspiration. Preliminary Notes on Emotional Conditions in Creative States," International Journal of Psycho-Analysis 30 (1939):377-88.

imposition of an unconscious fantasy upon perception can give rise to a unique insight, a new construction of a familiar reality which transcends adaptation rather than inhibiting it.

The import of Klein's model of cognition is the unity of motivation and cognition, cognition utilizing primary as well as secondary modes. He gives a detailed schematization of the origin of mentation in desire, and of the cognitive elements in desire itself. I will now turn to Freud's accumulated clinical evidence in support of this unity.

Manifestations of Primary/Secondary Process Interactions

The partial gratification of a repressed wish in conceptual activity can occur through the displacement of the wish onto an entire thought structure, as in rationalization, or it can occur through smaller displacements and indirect representations, for example, the parapraxes. The former represents a harmony of purpose between mentation and drive, thought the intention may be an unconcious one. The latter gives evidence of a conflict between drive and defense, between two strivings which interfere with one another and result in a sort of compromise situation. In this second instance, the primary process mechanisms are evident in the conscious verbal train of thought, and reveal themselves as slips of the tongue, mispronunciations, etc.

These anomalies of speech which appear to be mere accidents of fatigue Freud used to support a strict determinism of psychic life. In The Psychopathology of Everyday Life he wrote,

> Certain inadequacies of our psychic functions . . . and certain performances which are apparently unintentional

> prove to be well motivated when subjected to psychoanalytic investigation, and are determined through the consciousness of unknown motives.[31]

The inter-relationship of cognition and drive is postulated to fill the gaps in the causal sequence between thought and expression.

The previous description of the primary process had been drawn from dreams and neurotic symptoms, but here Freud explicitly extends its sphere of influence to normal (secondary mode) mentation.

> The mechanism of the faulty and chance actions . . . . shows in the most essential points an agreement with the mechanism of dream formation. . . . Here, as there, one finds condensation and compromise formation ('contaminations') . . .
>
> An important conclusion can be drawn from this combinatons: the peculiar mode of operation, whose most striking function we recognize in the dream content, should not be attributed only to the sleeping state of the psychic life . . . [32]

Thus conscious thought processes must be subjected to the dream's distortions. Freud extensively documents the eruptions of displacement and condensation which distort thinking, many of which he relates to lapses in memory. The forgetting of proper names, of foreign words, childhood memories, resolutions, and impressions are classified as motivated phenomena. Errors in speech and action are also considered as expression of unconscious desires. Rapaport comments, "Parapraxes are *unsuccessful* attempts at

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[31] S. Freud, The Psychopathology of Everyday Life, in The Basic Writings of Sigmund Freud, ed. and trans. A.A. Brill, p. 150.

[32] Ibid., p. 177.

forgetting."[33] They represent a failure of countercathexis to inhibit drive representations; rather than an appropriate response emerging in a chain of thought, a consciously irrelevant memory or word appears as a substitute, or *no* memory can be recalled.

Freud gives various examples of primary process mechanisms:

> An illustration of the mechanisms of contamination and condensation will be found in the following *lapsus linguae*. Speaking of Miss Z, Miss W depicted her as a very 'strait-laced' person who was not given to levity, etc. Miss X thereupon remarked: 'Yes, that is a very characteristic description, she always appealed to me as very 'straicet-brazed.' Here the mistake resolved itself into *straitlaced* and *brazen-faced*, which corresponded to Miss W's opinion of Miss Z.[34]

A complete reversal of conscious intent is often present in errors of speech. For example,

> A prospective patient, who had corresponded with me relative to treatment, finally wrote for an appointment for a certain day. Instead of keeping his appointment, he sent regrets which began as follows: 'Owing to *foreseen* circumstances, I am unable to keep my appointment.' He naturally meant to write *unforeseen*. . . . There were no unforeseen circumstances to prevent his coming; he was advised not to come to me. The unconscious does not lie.[35]

A rather famous example of displacement of a conscious intent by an unconscious desire, is that of the woman who is very anxious to have children and "always reads *storks* instead of *stocks*."[36]

The number of examples available of motivated errors is

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[33] D. Rapaport, Emotions and Memory, p. 148.

[34] S. Freud, The Psychopathology of Everyday Life, p. 78.

[35] Ibid., p. 93.

[36] Ibid., p. 88.

practically infinite, testifying to the ubiquity of primary process phenomena in conceptual mentation. Freud subsumes these variegated phenomena under the principle of failed repression, but he does not insist, as did Jones in elaborating Freud's ideas,[37] that repression is the *only* cause of error and forgetting. Freud also acknowledges the influence of external circumstance, for example, fatigue.[38] He expresses doubt concerning the total mechanism of forgetfulness.

> If in the determinations of faulty and symptomatic actions, we separate the unconscious motive from its co-active physiological and psychophysical relations, the question remains whether there are still other factors within normal limits which, like the unconscious motive or a substitute for it, can produce faulty and symptomatic actions on the path of these relations. It is not may task to answer this question.[39]

Rapaport holds that Freud's theory of motivated memory interference was applicable primarily to childhood experiences, dreams, and forgotten intentions (faulty acts).[40] Yet it appears that primary process mechanisms are also involved in normal forgetting as well as repressed material.[41]

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[37] E. Jones, Papers on Psychoanalysis (New York: Wood, 1923).

[38] S. Freud, The Psychopathology of Everyday Life, p. 39.

[39] Ibid., p. 172

[40] D. Rapaport, Emotions and Memory, pp. 144-45.

[41] S. Freud, Wit and Its Relation to the Unconscious, p. 748. ". . . there is another kind of mental event in which I have been able to show that condensation is a regular and important process: namely the mechanism of normal (non-tendentious) forgetting. Unique impressions offer difficulties to forgetting; those that are analogous in any way are forgotten by being condensed in regard to their points of resemblance."

However, Freud's main contention remains, that cognition is interrupted and distorted by the emergence of unconscious desires in errors and omissions. The logical relations of the secondary process are limited in their autonomy by the striving towards verbal discharge of an underlying tendency, i.e. by the operation of the pleasure principle. The pleasure associated with such release is most evident in jokes and wit which Freud also connects to the primary process mechanisms. Perhaps the reader noted that there was an amusing quality associated with the above examples of speech errors. According to Freud's theory of wit, this amusement is the pleasure that results from the momentary lifting of repression in the conscious recognition of a repressed motive. He says,

> Following our understanding of the mechanism of laughter we should be more likely to say that the cathexis utilized in the inhibition (repression) has now suddenly become superfluous and neutralized because a forbidden idea came into existence by way of auditory perception, and is, therefore, ready to be discharged through laughter.[42]

The pleasure inherent in word-play facilitates or makes possible the release of inhibition by obscuring its true source which is attributed to the word-play itself.[43] In this manner aggression and sexual desire can be expressed in conscious thought.

The mechanisms of wit-work are also identified with the primary process.

> The interesting processes of condensation . . . which we have recognized as the nucleus of the technique of word-wit, directed our attention to the dream-formation in

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[42] Ibid., p. 735.

[43] Ibid., p. 725.

> whose mechanism the identical processes were discovered. Thither also we are directed by the technique of the thought-wit, namely displacement, faulty thinking, absurdity, indirect expression and representation through the opposite. . . . Such a far-reaching agreement as found between the means of wit-work and those of dream-work can scarcely be accidental.[44]

Condensation in jokes is identified with 1) the formation of composite words; 2) multiple use of the same material;[45] and 3) double meaning (puns). A simple example from Brill will suffice; "Disraeli once remarked that old persons are apt to fall into 'anecdotage'."[46] This is obviously a fusion of the words dotage and anecdote, and refers to the fact that persons approaching senility are fond of anecdotes. It is a gentle release of aggressive feelings. Displacement, though it plays a less important role, also is involved in creating witty remarks, through a "displacement of the psychic accent." The primary significance of a statement, its implied logical relation of cause and effect, right and wrong, is ignored, and the significance is displaced onto a relatively minor detail. Freud relates this joke:

> In his distress a needy man borrowed $25 from a wealthy acquaintance. The same day he was discovered by his creditor in a restaurant eating a dish of salmon with mayonnaise. The creditor reproached him in these words: 'You borrow money from me and then order salmon with mayonnaise. Is that what you needed the money for?' 'I don't understand you,' responded the debtor, 'when I have no money I can't eat salmon with mayonnaise. When I have money, I mustn't eat it. When then, shall I ever eat salmon with mayonnaise?'[47]

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[44] Ibid., pp. 686-87.

[45] For example, "'Do you call a man kind who remits nothing to his family while away?' asked an actor. 'Yes, unremitting kindness.'" Ibid., p. 649.

[46] Ibid., p. 642.

[47] Ibid., p. 658.

The purport of the first man's question was a reprimand for self-indulgence; the second man, however, ignored this emphasis and displaced it to the eating of salmon with mayonnaise. (Note that the content as well as the form of this particular joke refers directly to the gratification of a forbidden wish.)

Wit is a socially shared form of expressing feelings which are commonly inhibited from physical expression, and at times even repressed from consciousness altogether. Its use of the primary process mechanisms marks it as an example of the interpenetration between the two organizational modes of thought, and is closely related to Kris' observation of the creative potential of unconscious motivations (which will be discussed below). Such universal utilization of primary process mechanisms by waking cognition, giving evidence of the continuing influence of drives on mentation, certainly points toward a breakdown of a dichotomous approach to thought. Displacement and condensation may be characteristic of all levels of consciousness, but in various forms. For instance, displacement of energy occurs in thinking, but involves "relatively small quantities of cathexis together with less expenditure of them."[48] Thus there is a hierarchy of displacement phenomena: secondary process--primary process--action. In the usual sense of the word, however, displacement means a total transfer of energy from one representation to another.

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[48] S. Freud, "Formulations on the Two Principles of Mental Functioning," (1911b), Standard Edition, vol. 12, p. 221.

Gill argues that condensation is the original form of conceptual synthesis, and that association, or the understanding of relationships, is derived from displacement. He says,

> Association and synthesis, displacement and condensation, differentiation and union must clearly work together, and the highest form of thinking would seem to be that in which relationships and differences are simultaneously apprehended and integrated.[49]

Thus the mechanisms of the primary process are seen to operate throughout a continuum of thought forms, both in their more "primitive" state and as higher level derivatives of ideation. The directing tendency behind all manifestations of these phenomena is invariably the pleasurable gratification of a drive, connected genetically to the somatic instincts.

Perception and the Primary Process: Experimental Evidence

There has been a large volume of experimental work published in recent years concerning factors which influence the perceptual process. The scope of this paper does not allow a detailed review of such work; instead I will describe an exemplary study interpreted within the psychoanalytic framework which illustrates the interpenetration of primary and secondary organizational modes, and the interaction of unconscious, preconscious and conscious perceptions.[50] The technique was derived from an earlier

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[49] M.M. Gill, "The Primary Process," in Motives and Thought. Psychoanalytic Essays in Honor of David Rapaport, ed. R.R. Holt, (New York: International Universities Press, Inc., 1967), Psychological Issues, Monogr. 18-19, pp. 293-94.

[50] C. Fisher, "Dreams, Images, Perception. A Study in Unconscious-Preconscious Relationships," Journal of the American Psychoanalytic Association 4 (1956):5-48.

study by Allers and Teler[51] and consisted of exposing a picture through a tachistoscope for 1/100 of a second to subjects whose psychological histories were known. The subject was first required to draw what he had perceived on the screen. A word association test was then administered, and the subject was asked to supply images which occurred during each association, and to draw them in as much detail as possible. Subsequently, the same picture was re-exposed for an unlimited time, and the subject was asked to find correspondences between his drawings and the re-exposed picture.

Striking similarities between the forms in the exposed frame and in the subjects' drawings were invariably noted, though transformations were commonplace (for example, a man might become a tree). The relation between objects, the rough outline of figures, size of figures, were usually reproduced with accuracy. Even figures which were contained in the exposure in a concealed fashion were noted and appeared in the later drawings. A remarkable tendency to reproduce in word association drawings the details unnoted in the first impression of the slide was characteristic of all the subjects. In fact, some subjects included in their drawings certain details whose origin they could not explain and which were extraneous to the drawing itself. However, upon being shown the stimulus exposure for an extended time period, such details were immediately

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[51] See O. Poetzl, R. Allers, and J. Teler, Preconscious Stimulation in Dreams, Associations and Images. Classical Studies (New York: International Universities Press, Inc., 1960), Psychological Issues, Monogr. 7.

recognized by the subjects as having been derived from the exposed picture.[52] Subjects explained that they felt a certain compulsion to include these details without conscious understanding why.

The compelling or peremptory tendency of preconscious impressions to become conscious varied in degree, and appeared to correlate with the unconscious significance of these impressions. One woman who had been a prisoner in Nazi concentration camps and had suffered starvation and torture was shown a picture of two Siamese cats and a parakeet. During the tachistoscopic exposure of the scene, she perceived what she thought were two dogs or pigs, but no bird. In subsequent drawings she produced mammal-like creatures which she claimed were dogs, but which had many birdlike features, e.g. tails and beaks. Fisher describes her reactions:

> She attempted to draw the dog but in spite of all her efforts she found herself drawing a bird. The animal she drew had a bird's head, body, long tail feathers and closely resembled the body and general configuration of the parakeet in the exposed picture. The subject became very confused, wanted to know what was wrong, could not understand why she continued to draw a bird, stating that she knew very well how to draw a dog.[53]

Fisher points out two areas of unconscious conflict which contributed to her original failure to perceive the bird and insistent quality of the preconscious image's reappearance. Her father, who had been unloving when she was a child, had kept

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[52] For pictorial examples, see C. Fisher, "Dreams, Images, Perception. A Study in Unconscious-Preconscious Relationships," pp. 17-19.

[53] Ibid., pp. 23-25, illustrate her drawings.

pigeons and from time to time had eaten them. Various details associated with this appeared in her drawings: the father's pigeon coop, his watchdog, his pigeons. Secondly, her oral frustration and associated sadistic impulses aroused by her experience in the concentration camps were re-awakened by the picture of cats and bird, predator and prey, in close proximity. The compulsive attempts to become conscious of the bird, and the strong defense against this, were manifestations of an underlying conflict concerning her father, her wartime experience, her fear of being preyed upon, and her frustrated desires to be a predator (to eat). Other subjects demonstrated similar response.

On the basis of his observations, Fisher theorizes that primary process distortions may operate in perception as well as memory, and that they can take place instantaneously. This is in agreement with the supposition that primary and secondary organizations of experience interpenetrate to a certain degree in waking consciousness. It also appears from Fisher's experiments that it is a repressed drive or fantasy which accompanies the primary organization; this could be called a "drive organization of perception." Certainly it is closely analogous to the errors in speech and action which Freud attributed to unconscious motivation.

And not only does such evidence point out primary mechanisms emerging in consciousness, but it also reveals a reality-oriented veridical perception which takes place on a subjectively unconscious level. At exposure times too brief for

conscious perception, subjects retained an image of spatial, temporal relationships and interpreted, scanned, the picture for meaning.[54] This does not suggest a "second perceiver" below the threshold of consciousness who scans incoming data, but merely that consciousness and perception are not synonymous (cf. discussion of consciousness in Chapter 3). The drives and the corresponding countercathexes, through the mediation of memory and perception, partially determine what will receive conscious hypercathexis. This organizing core of affect interacts with the secondary relations of time, space, and causality to produce a limitless variation of conscious experience.

Creativity:
Primary/Secondary Process Collaboration

It is not merely fortuitous that the above experiment involved creative activity as the mode of expressing unconscious and preconscious activities. Yet even an individual's stream of consciousness is a creative act in that it constructs a unique train of thought, a fantasy, a concept, seemingly without conscious effort and guidance. From where does such activity arise, and what is its relation to poetic and scientific creativity? Fisher's examples give a clear indication that artistic activity, at least of a rudimentary nature, is a manifestation of both primary and secondary modes, unconscious and conscious memories and perception.

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[54] See E. McGinnies, "Emotionality and Perceptual Defense," Psychological Review 56 (1949):244-51, for further evidence.

As mentioned previously, E. Kris has expressed the opinion that creativity involves a "regression in the service of the ego."[55] The ego temporarily utilizes, or makes conscious, the primary process mechanisms which express the drive impulses or their closer derivatives. Such a theory is related to Freud's explanation of wit: "A foreconscious thought is left for a moment ot unconscious elaboration and the results are forthwith grasped, by the conscious perception."[56] The difference between the dream, which is also an unconscious transformation of preconscious thought, and wit, are 1) that the dream regresses to perception whereas wit remains verbal; and 2) that wit is double-sided, i.e. deals with sense and nonsense, primary and secondary modes.[57] Creative endeavours, like the dream, may involve visual imagery in their construction, but also exhibit the double-sidedness of wit.

Kris distinguishes between an inspirational and an elaborative phase in creative activity.

> The inspirational phase is characterized by the facility with which id-impulses or their derivatives are being received. One might say: countercathectic energies are withdrawn to some extent, and added to the speed, force or intensity with which the preconscious thoughts are formed. During the 'elaborational' phase, the countercathectic barrier may be reinforced . . . cathexis lies with other ego-functions . . . with reality testing . . .

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[55] E. Kris, "On Preconscious Mental Processes," in Organization and Pathology of Thought, ed. D. Rapaport (New York: Columbia University Press, 1951), p. 487.

[56] S. Freud, Wit and Its Relation to the Unconscious, p. 750.

[57] Ibid., p. 756.

> Alternations between the two phases may be rapid, oscillating, or distributed over long stretches of time.[58]

The mechanism manifested by a shift to the inspirational half of the cycle is probably a shift in cathectic distribution. Countercathexis is withdrawn, hypercathexis is applied to the relatively mobile energy of the unconscious impulse or fantasy. This accounts for the intensity of many creative experiences, and the feeling of strangeness attributed to the emerging material. Kris comments that the concept of divine or supernatural inspiration can be understood as a result of this intensity and unfamiliarity, particularly of the latter; the experience is passively received as a message. It has been wholly elaborated in the unconscious mind.[59] Another factor relevant to the quality of this experience is that the unconscious impulse is cathected not only by neutralized attention cathexis, but also is intensified by drive cathexis. It should be remembered that it was drive cathexis which was originally capable of producing a conscious hallucination. This hallucination is perceived as external to the perceiver, as a real entity. The receptive illusion of creativity is thus evidence of the presence of primary process ideation.

Victor Rosen has published an account of the creative characteristics of mathematical prodigies which appears to corroborate Kris' theory, with fascinating implications for the

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[58] E. Kris, "On Preconscious Mental Processes," p. 489.

[59] Idem, "On Inspiration. Preliminary Notes on Emotional Conditions in Creative States," International Journal of Psychoanalysis 30 (1939):86.

mechanisms involved. Based on the self-observation of several brilliant mathematicians, Rosen suggests that a great portion of the ordinary process of mathematical thought in these individuals is preconscious, and that it involves a capacity for decathexis of the conscious perceptual system. For example, one woman prepared for her work by spending the preceding 24 hours in a state of concentration in which she thought of nothing at all, as far as possible.[60]

The extraordinary abilities of the so-called "lightning calculators" appears to interfere with other spheres of intellectual work such as reading and writing. This is probably related to the decathexis of external imagery which appears necessary for computation. George Bidder, an Englishman who was an infant prodigy, suggests why this mutual exclusivity between verbal and numerical ability may exist. He says,

> . . . the velocity of the mental processes cannot adequately be expressed; the utterances of words cannot equal it. . . . The reason for my obtaining the peculiar power of dealing with numbers may be attributed to the fact that *I knew the value of numbers before I knew the symbolic figures (arabic)*. In consequence of this numbers have always had a significance and meaning for me very different from that which figures convey to children in general.[61]

Another mathematician, J. Hadamard, reports a somewhat related phenomenon; describing the solution to a problem he says,

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[60] V.H. Rosen, "On Mathematical Illumination and the Mathematical Thought Process," The Psychoanalytic Study of the Child 8 (1953):127-55.

[61] F. Barlow, Mental Prodigies (New York: Philosophical Library, 1952), cited by V.H. Rosen, "On Mathematical Illumination and the Mathematical Thought Process," p. 144.

> . . . a group of vague unstructured spots of different cluster qualitites stand out at each decisive stage of the proof before the stage itself comes clearly to mind.

Of a second problem he comments similarly.

> When I think of that question I see not the formula itself, but the space it would take if written, a kind of ribbon which is thicker or darker at the place corresponding to the possible important terms . . . or as I should see it, being strongly farsighted, if I had no glasses on.[62]

Both of these accounts indicate that numbers are decathected as written figures, and are conceived of in an entirely different way. Hadamard still utilizes visual imagery, but it has become extremely abstract; only such attributes as light/dark, thick/think, remain. Freud's description of the development of abstract thought involves a continuum from hallucination (primary process) which is purely imagery, to secondary thought which operates with non-qualitative relationships. However, thought remains object oriented and relatively concrete. In comparison, mathematics (the "pure" discipline) appears to be capable of dispensing with the realm of visual images and thus to be even more autonomous from the drives than logical cognition.[63]

Yet there is a link between the mathematical process and the drives. The preoccupation with mathematics can be peremptory and compelling in some persons, indicating an association with

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[62] In F. Barlow, Mental Prodigies, cited by V.H. Rosen, "On Mathematical Illumination and the Mathematical Thought Process," p. 146.

[63] This can be assumed to be relevant to the "naive" and unrealistic attitudes sometimes observed in such persons when dealing with pragmatic situations. It is a move both away from and toward reality.

an unconscious impulse. Also, mathematical creativity often occurs as an inspirational insight after a long period of frustration, just as Kris describes the hypercathexis of an unconscious train of thought. Rosen provides evidence from a patient's case history of a link between discovery of feminine passive wishes, and of the use of mathematics for sublimation.[64] The difference between mathematical and other cognitive creativity appears to lie only in the paucity of visual imagery observed in some persons.

Structure and Stability in Primary/Secondary Collaboration

The preceding discussion is not intended to give the impression that memory and perception do not normally convey a stable and organized picture of reality, and that creative thinking is dominated entirely by the instincts. Quite obviously, logical thought reflects a semi-permanent mode of operation which cannot be constantly altered and re-established after every conflictual confrontation with id impulses. Observation confirms that such is not the case, but rather that there are behavior patterns and cognitive styles which characterize a given individual over long periods of time. Adaptation is founded upon these stable patterns (anticipations in Rapaport's terms), generalized perceptual adjustments to the environment, and concepts which are valid and applicable to most situations. These are examples of psychological structures, the products of learning and instinctual delay, and they represent

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[64] R.V. Rosen, "On Mathematical Illumination and the Mathematical Thought Processes," pp. 148-49.

the necessary intervening variables between drive and reality.

Throughout this project, the concept of structure has been mentioned as a necessary part of the ontogenesis and maintenance of the secondary process. Chapter 2 contains a definition and discussion of structure as an id characteristic and, by implication, an ego characteristic, but the structures of ego have not been made explicit. Defenses, drives, drive thresholds, memory, the perceptual apparatus, language, concepts, fantasies, motor chains of reaction (automatizations), all impose structure upon experience and behavior. Psychoanalysis speaks as if they themselves *are* structures in that they are relatively enduring phenomena with characteristic functions and organizations. The ego is the synthetic adaptation of these functions, some of which (for example, perception) predate the conflict between drive and reality, and are thus said to have primary autonomy.[65] Freud originally postulated that the ego arose entirely from id/reality conflicts;[66] however, he later indicated that the ego might be more than a product of experience.

> Our next question will be whether all Ego-modification . . . is acquired during the defensive conflicts of early childhood. There can be no doubt about the answer. We have no reason to dispute the existence and importance of primal, congenital Ego-variations. The single fact is decisive that every individual selects only certain of the possible defense-mechanisms . . . we must not

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[65] H. Hartmann, "The Mutual Influences of the Ego and the Id," in Essays in Ego Psychology. Selected Problems in Psychoanalytic Theory (New York: International Universities Press, Inc., 1964), pp. 155-81.

[66] See S. Freud, The Ego and the Id (1923b), Standard Edition, vol. 19.

> overlook the fact that Id and Ego are originally one. . . . even before the Ego exists, its subsequent lines of development, tendencies and reactions are already determined.[67]

Hartmann takes up the idea that there is an initial undifferentiated phase of development and certain psychological capacities which are conflict-free.[68] These include special individual endowments, as Freud also suggested, which would have a mutual interaction with the drives.[69] All structures such as memory and motility can become subject to conflict, of course, take on symbolic value and undergo the transformations and displacements of primary process mentation. Examples of this vis a vis language were given in the preceding discussion. Usually, however, both drive/conflict and conflict-free maturational factors are operative in a learning situation. For example, the acquisition of language involves identifications, libidinal ties to parents, and environmental factors as well as practice and developmental readiness. An important task for psychoanalysis is to examine the mutual facilitation and inhibition which occurs between drive and adaptive response.

The structures of primary autonomy could be called the rudimentary ego which from birth limits the possibility for

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[67] Idem, "Analysis Terminable and Interminable," (1937c), Standard Edition, vol. 23, pp. 394-95.

[68] H. Hartmann, Ego Psychology and the Problem of Adaptation, in Organization and Pathology of Thought, ed. D. Rapaport, p. 365.

[69] The impact of instincts upon other functions has been thoroughly detailed in this chapter; the reciprocal influence of autonomous or inborn structures upon drive response is a neglected area of speculation, and one almost inaccessible to empirical research. Again, Piaget can supply potentially relevant data.

complete discharge of instinctual tension. Rapaport suggests that it is the delay of discharge imposed by these given structures which precipitates the differentiation of the ego from the id.[70] The ego integrates these apparatuses, and structures of secondary autonomy are subsequently formed, modelled upon, or crystallized around, the basic functions of primary autonomy. The secondary structures are usually referred to as defense, a countercathectic energy distribution, and they become new apparatuses of the ego operating with more or less neutralized bound energy.

This new energic and structural organization has laws of its own (the secondary process) and cannot be reduced to its genetic relations with the id. Defenses such as denial, reaction formation, and rationalization become motivated patterns of behavior which can take the form of idealism, honesty, intellectuality. In other words, they become part of the "conflict-free" sphere of ego operations, and achieve an adaptive value partially independent of the original defensive function. This is particularly relevant to the thought process; psychoanalysis has dealt with thought processes in terms of rationalization, projection, isolation, etc., but the secondary process transcends defensive functions. It becomes man's most powerful adaptive tool, and establishes a relationship to reality which is relatively invulnerable to drive distortion.

In the relationship between primary and secondary process, psychological structures such as defenses and concepts maintain

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[70] D. Rapaport, "The Autonomy of the Ego," in Psychoanalytic Psychiatry and Psychology, Clinical and Theoretical Papers, eds. R.P. Knight and C.R. Friedman, p. 254.

the autonomy and permanence of conceptual reality-adaptations. They limit such influence of drives upon speech, logic, and behavior as are described above. The accomplishments of rational cognition, and the ubiquitous distortion of cognition by "irrational" needs, are equally impressive to the observer. Psychological structures maintain only a relative autonomy of the secondary process, but an autonomy which should not therefore be underestimated in its persistence and validity. There exists a balance, an interpenetration between primary and secondary modes of cognitive organization, and a valid theory of learning and cognition must avoid emphasizing the role of one to the exclusion of the other.

CHAPTER FIVE

CONCLUSION

It has been the purpose of the preceding chapters to demonstrate a unity or, at least, a continuity between unconscious mental processes and rational waking thought. Throughout the discussion, the primary process has most often been the mode of thought characteristic of dream, fantasy, and drive-motivated mentation; on the other hand, the secondary process has been correlated with language, logic, and consciously directed thought structures. However, it has become obvious during the course of analysis that such a simplistic dichotomous approach is inadequate for a theory of knowledge and mind, and that primary and secondary modes should be postulated as opposite poles of a continuum which, like a line with an infinite number of points, contains a potentially infinite number of thought modes or thought "states." Primary and secondary mechanisms overlay one another, interact, interrupt, impede, and facilitate one another to various degrees, and both are active in phenomena as disparate as creative discovery and minor errors in conversation.

It has been my contention that the role of the primary process has been underestimated and even unrecognized by recent learning theorists, as well as by philosophers of mind. The scientific tenets of objectivity and empiricism have led in both fields to an overvaluation of reason as a neutral tool of

observation, capable of detached analysis which would ideally approach the precision of mathematics. The effort to eliminate subjectivity from observation and methodology has corresponded to a tendency to eliminate the subjective and irrational elements of human mentation as subject matter, which has encouraged the emergence of theory which fails to encompass phenomena related to the primary process. Behaviorism is an obvious example of such a theory, but even more cognitive approaches (for example, the humanist or neo-Freudian school of thought) lack the depth of a developmental approach to thought.

Psychoanalysis points out that reason is not originally endowed with logical categories, but rather that the body has categories of its own which are transformed and interwoven with meanings derived from experience. Space, time, and causality are temporally and motivationally derivatives of desire. As a legacy of the origin of thought, highly abstract concepts remain susceptible to distortion by drive motivation, or to suppression in dream and fantasy. Epistemology, whether idealist or empiricist, has traditionally assumed a rational conscious perceiver or knower, and has proceeded to examine the nature of the observed reality. Recently, philosophy of science has observed the inevitable mutuality of an act of knowing, that observer shapes object. How reality is shaped depends, of course, on the instrument being utilized, and so the determination of the nature of mind becomes a prerequisite for an understanding of reality. The act of knowing itself, a process or event, become the focal point of epistemology.

Psychoanalysis entertains a rather paradoxical view of rationality. Freud relied therapeutically on the neutral analysis of reason to achieve insight and thus cure. There was no technique utilized other than the incorporation of primary modes of symbolization by secondary modes. Symptoms, fantasies, unconscious motivations, which conformed to the displacements and condensations of primary mentation were translated into the framework of logic, cause and effect, by the efforts of reason. Yet Freud also formulated more clearly than his predecessors the limitations of reason and the power of desire. He acknowledged the errors and gaps of memory and language as indications of drive motivation distorting the thought process. In fact, the instinct theory at times implied a reason so severely limited by need that psychoanalysis presented a culturally pessimistic stance.[1] The structural theory of id, ego, superego, redressed the imbalance somewhat and it is possible now to trace a mutual balance and interdependence between drive and mentation.

It is the unique contribution of psychoanalytic metatheory to provide a framework within which it is possible to dissolve the antipathy between reason and emotion, mind and body, vitalism and determinism. It does so through illuminating the unity of primary and secondary process, unconscious and conscious, and by thus defining thought as the product of biological, evolutionary, and emotional factors, as well as environmental. This, of course, eliminates the concept of autonomous reason as man's special prerogative, and places him entirely within the natural

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[1] See, for example, S. Freud, Civilization and Its Discontents (1930a), Standard Edition, vol. 21.

universe. It also opposes the stand of radical empiricism that assumes no interference with observed fact on the part of an observer, the objective givenness of observables. If desire shapes and distorts even abstract thought, then empiricism must admit the presence of subjective valuation in all acts of perception.

A philologist, Usener, is quoted by Ernst Cassirer in Language and Myth as saying,

> There have been long periods in mental evolution when the human mind was slowly laboring toward thought and conception and was following quite different laws of ideation and speech. Our epistemology will not have any real foundation until philology and mythology have revealed the processes of involuntary and unconscious perception.[2]

Psychoanalysis has explored the psychological, individual evolution of theoretical reason from ideation and myth and magic towards conceptual understanding. Thus it can constitute a model point of juncture between linguistics, anthropology, literature, epistemology, and psychology. The rational and the irrational are united in man's symbolic capacity; both dream and language are symbolic expressions, revealing different levels of conceptualization. Freud recognized both the unity and disparity in man's symbolic transformations of his world. All trivial and seemingly unintended actions, irrational patterns of behavior, bodily illnesses, are in psychoanalysis granted a status akin to words. They are re-discovered as language, a language which embodies desire and passion, yet is fundamentally conceptual. The continuity of mind and body is expressed in the

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[2] E. Cassirer, Language and Myth, trans. S.K. Langer (New York: Dover Publications, Inc., 1953).

primary categories of meaning which are "timelessly" held in the unconscious nexus of mind and body.

The primary process is, of course, the conceptual mode most closely adhering to the bodily categories of desire. Freud has provided an outline of the underlying mechanisms which produce "mythical" knowledge of the environment. Cassirer's description of the mythical creation of a god is strikingly similar to Freud's discussion of the dream image.

> . . . its separation from the totality of ordinary, commonplace experience produced not only a tremendous intensification, but also the highest degree of condensation, and as though by virtue of this condensation the objective form of the god was created so that it veritably burst forth from existence.
>
> Now it is there, this intuitive creative form of myth, and not in the formation of our discursive theoretical concepts, that we must look for . . . the original conceptions of language.[3]

However, Freud has extended the significance of such image-formation beyond the inceptual stage of language and reason, and has traced its continual influence on the thought process. He has also indicated the generic relation of thought to sexuality and aggression, thus providing more than a descriptive analysis of the origin of language. Such is the importance of psychoanalysis for epistemology; it illuminates the subterranean shaping and structuring of knowledge and mind which it expresses itself in both myth and science.

Learning Theory and Psychoanalysis

The specific problem of learning is the transformation of fluid sensory impressions into an objective verbal structure of

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[3] Ibid., p. 34.

concepts. How is it that the dynamic flux of feeling and need ever comes to represent external reality in a relatively stable and veridical manner? In describing the transition from primary to secondary modes, Freud explicates this adaptational shift in thought with the concepts of drive, delay, threshold, defense and binding. Rapaport's primary model of cognition locates the origin of thought in the lack of correlation between internal need and external reality, and memory.[4] The search for gratification dictates that action must be mobilized to alter the existing reality, and memory guides the organism in effective action. Emotional and motor discharge are checked by internal restraint as the child learns to utilize memory to organize his behavior prior to action. Memory becomes associated according to relationships in the environment as well as by the motivation of instinct, and thought gains in autonomy.

Binding and delay are therefore the basis of veridical mentation, and play a crucial theoretical role in a psychoanalytic approach to learning. As discussed in Chapter 2, binding is a difficult concept to define; it borders on the field of neurophysiology and ultimately requires a physiological referent. D.O. Hebb refers to the "slow-burning" activity of the dendrite which "tends not to be transmitted" and which sounds very much like Breuer's original concept of tonic excitation from which Freud developed the function of cathexis (often identified with

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[4] D. Rapaport, "Toward a Theory of Thinking," in Organization and Pathology of Thought (New York: Columbia University Press, 1951), pp. 696-97.

binding).[5] Furthermore, he cites the diffuse projection system from the brain stem to the cortex which acts as a general arousal system and makes possible organized mental activity.[6] This also reminds one of Freud's postulation of the ego as a cathected group of neurons which in union maintain a high level of excitation and thus block the passage of large quantities of energy (bind energy).

It is clear that the term energy as Freud used it, absorbs two meanings, or rather that it can serve as a conceptual link between the physiological and the psychological realms of learning theory. Holt maintains that the concept of psychic energy points toward the resolution of the vitalist/mechanist conflict in the social sciences, if it is assumed to operate within an open cybernetic feedback system of information rather than in a closed psychological apparatus with fixed amount of energy.[7] It is a possible term of translation between mental

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[5] D.O. Hebb, "Drives and the C.N.S. (Conceptual Nervous System)" The Psychological Review 62 (1955):248.

[6] Ibid.

[7] R.R. Holt, "Beyond Vitalism and Mechanism: Freud's Concept of Psychic Energy," in Historical Roots of Contemporary Psychology, ed. B. Wolman (New York: Harper and Row, 1968), p. 217. I am aware that Holt's views on the usefulness of the concept have altered unfavorably, but I consider his earlier statements more accurate and theoretically heuristic. See B.B. Rubenstein, "Psychoanalytic Theory and the Mind-Body Problem," in Psychoanalysis and Current Biological Thought, eds. N.S. Greenfield and W.C. Lewis (Milwaukee: University of Wisconsin Press, 1956), for a good discussion of the relation between neural and psychic terms. Relevant to the above paragraph, it should also be noted that even within a closed system, there is not an unlimited amount of energy for outputs, unless there is unlimited input. This is plainly not the case in human beings; thus Freud's early writings are valuable as they are formulated.

and physical that is susceptible to empirical verification on the level of micro (neural) events, but is also sufficiently broad to serve as a theoretical term on the level of behavior.

To return to the concept of binding, within a psychological context it is defined as an alteration in the mode of energy discharge as a result of impulse delay. Defense "structures" are created, which can be conceptualized as habits, memory, or more broadly and appropriately, anticipations.[8] Such structures create patterns, tendencies of behavior relatively adapted to reality. They also come to constitute attitudes, concepts, styles of conceptualization, and determine to a certain extent what new knowledge will be received from the environment and how it will be interpreted. The influence of desire is filtered through a hierarchical layering of defenses and memory associations to interact with perception, and to lend valuation to experience and possibly to inhibit apprehension of certain events. In preceding chapters it has been demonstrated, in the work of Schur, Klein, Fisher, and others that perception is inevitably conceptual, and conception is essentially desirous.

Learning, then, would first be the construction of enduring and interalized inter-relations between desire and reality. Information lends direction to behavior and thus "structuralizes" it. However, psychic structure represents a point of juncture between drive and environment; thus the learning process does not depend wholly on environmental stimulation, nor does it merely construct an interior model of outer circumstance.

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[8] D. Rapaport, "Towards a Theory of Thinking," p. 712-13.

Concepts are derived also from bodily reality (for example, the oral modes of ingestion and spitting out). This again reflects the fundamentally metaphorical symbolic character of the human mind which embodies itself secondarily in language and thought.

Structural consequences of impulse delay organize and select behavior, and therefore achieve the refinement and adaptation of response usually referred to as learning. The inhibiting and regulatory nature of the learning process seems closely related to Freud's concept of binding, which in turn is related to neutralization of instinct through object relations, ego formation, identification, which are unfortunately beyond the scope of this discussion.

In terms of the primary and secondary processes, learning can occur at both levels of conceptualization and therefore cannot be strictly equated with binding. The perception acquired through the primary mediation of need always intermingles with the understanding of more autonomous logic. The logic of the primary process is merely structured according to instinctual desire rather than by the accommodations of body to reality. This may be the basis for a distinction between early and late learning, the former being dominated by drive organization and the latter by the establishment of memory and conceptual structures.[9] However, the former mode is never entirely superceded by the latter.

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[9] See F. Schwartz and P.H. Schiller, A Psychoanalytic Model of Attention and Learning (New York: International Universities Press, Inc., 1970), Psychological Issues, Monogr. 23, p. 118.

Psychoanalysis and Piaget

Piaget's sensorimotor theory of the development of mind and the acquisition of knowledge has certain obvious affinities to psychoanalysis. Both Freud and Piaget link the origin of thought with biological functions, beginning with simple reflex as the basic unit. Piaget also stresses the interdependence of mind and body, and attempts to trace mathematical and logical categories from the infant's manipulation of objects and of his own body.[10] He says,

> . . . reason itself is not an absolute invariable but is elaborated through a series of creative operational constructions. . . . These result from coordinations of actions and can be traced right back to morphogenetic organization and to biological organization in general.[11]

In a second passage he emphasizes the biological continuity of actions and thought.

> . . . language is not thought, nor is it the source or the sufficient condition of thought. The roots of thought must thus be sought in action, and operational schemata derive directly from action schemata: the operation of addition proceeds from the action of joining things together, and so on . . . Generally speaking, logico-mathematical structures are extracted from the general coordination of actions long before they make use of any language . . .[12]

Implicit in this concept of intelligence is a view of reality, shared by psychoanalysis, as shaped and conditioned by human intellect and the physical structures which underlie it.

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[10] See J. Piaget, Biology and Knowledge, trans. B. Walsh (Chicago: The University of Chicago Press, 1971), for his most explicitly epistemological formulation. All references to sensorimotor theory in the following pages will be drawn from this text.

[11] Ibid., p. 79.

[12] Ibid., p. 181.

Yet there are distinct differences between the two theories concerning the development of conceptual autonomy. Motivation arises from inborn reflex schemata, such as sucking, looking, grasping, according to sensorimotor theory; upon stimulation from the environment, these reflexes begin to function and to assimilate new information. The learning process takes place as inborn structures accommodate (absorb, adapt to) external reality. However, as the process continues, all new information is received as it pertains to already-existing schemata and thus is actively modified during learning. In infancy, the schemata referred to are behavioral or action schemata, but in later childhood schemata become operational or mental as action is internalized and symbolized, i.e. constructs abstract thought.

One is reminded of Hartmann's structures of primary autonomy which are inborn and constitute the nucleus of the ego; also of Erikson's organ modes, reflexive patterns which evolve basic categories of concepts. Freud himself referred to thinking as a "detour" or substitute for direct action, either through ideation or logical process. But Freud differs from Piaget in assigning the locus of motivation to instinct rather than to given reflexes, to the dynamics rather than the structure of the body. Both agree that biological functions are the root of intelligence, but Freud emphasizes the role of internal stimuli, and Piaget, the external stimuli. Possibly as a result of the differing emphases on inner and outer stimulation, psychoanalysis postulates the discharge of stimulation as the fundamental activity

of the child; in contrast, Piaget speaks primarily of assimilation.

Other differences between the two theories appear consequent to the divergent theories of motivation. Human relations, individual variation, and organic maturation are considered more important in psychoanalysis than in sensorimotor theory. Regarding the primary and secondary processes, Freud tended to stress the maladaptive nature of primitive mentation, whereas Piaget illuminates the continuity in development of secondary mechanisms from primary. This is the essential significance of Piaget for my discussion; he provides a detailed and empirical outline of the transition from function to structure to concept. Psychoanalysis pointed out the relationship between structure-building and the advent of relatively objective thought, but originally formulated its explanation in protoneurophysiological terms, rather than strictly psychological terms. (Ego psychology has since made more explicit the psychoanalytic model of cognitive development.) The complementarity of the two approaches is apparent, since development must result from both internal and external factors.

The "magical" procedures of the primary process are also observed in sensorimtor theory, and Piaget is most concerned with the appearance of logico-mathematical (secondary process) operations in a direct genealogy from physical activity. It is clear that both psychoanalysis and sensorimotor theory consider knowledge to be the result of a hierarchical development of mental activities which are increasingly autonomous, on the one

hand from the drives and on the other from the environment. However, psychoanalysis represents most clearly how maladaptive behavior can be instituted and perpetuated by becoming part of the defensive, anticipatory psychic structure. Freud substantiates, perhaps more clearly than Piaget, that the stability of logic is only relative, and is always giving evidence of the impact of need and affect. The motivations postulated by psychoanalysis are enduring and generalized, guiding and evaluating thought, creating pervasive orientations which affect the perception of reality. Piaget's operational schemata can be viewed as the neutral tools of reason, the substructure, the secondary mechanisms of reason. The primary mechanisms are never completely assimilated into the framework of logico-mathematical thought.

One can assume that both bodily and instinctual characteristics serve as the foundation of intelligence, and thus ultimately come to shape human reality.

Conclusions

The preceding discussion of psychoanalysis and Piaget is meant to demonstrate, very briefly, the heuristic potential of psychoanalytic theory if integrated with the empirical methodology of experimental psychology. Its major contribution to learning theory appears to be in its recognition of the genetic and adaptive interdependence between drive and thought, primary and secondary mechanisms, and in the consequent unconscious and involuntary shaping of external reality which occurs. The

omissions and errors of metapsychology can be corrected by amalgamation with the considerations of learning theory, particularly through a broadening of its motivational theory.

Linguistics may also prove to be an area in which psychoanalytic concepts will be useful. Freud's most valuable insight was that symbolic activity is not limited to language and that it arises from a more basic tendency of mentation to express its own inner workings outwardly, metaphorically, through action and symptom, as well as word. Language is thus linked originally to the body, and the development of secondary mechanisms from primary contains a latent theory of language (see Chapter 3). Paul Ricoeur states that binding (sublimation as he refers to it) which is intimately associated with the secondary process can be considered synonymous with the symbolic process itself.[13] A symbol reveals its referent by signifying it, but also conceals it by becoming a substitute; this is the process of compromise and detour which is essential to dreams, symptoms, and defensive functions. Thus the symbolic function can be traced to the primary process which lends full significance of a drive to any associated memory or concept. Such a memory becomes a symbol, as in a dream, because it concentrates the valuation of a desire upon a mental fragment which then represents the desire or its fulfilment. The phenomenon of sublimation or binding channels the valuation in a stable manner which creates a system of symbols.

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[13] P. Ricoeur, Freud and Philosophy. An Essay on Interpretation, trans. D. Savage (New Haven, Conn.: Yale University Press, 1970), p. 499.

I am aware that psychoanalysis has relevance for fields other than learning theory and linguistics; in particular, ethics and aesthetics could be enriched by incorporating psychoanalytic concepts (and this has been accomplished to a certain extent). I also admit that my discussion has not dealt with all the variables in psychoanalysis which have implications for learning theory. Identification, automatization, and superego formation have scarcely been mentioned. However, it has been my intention to focus primarily on the theory of mind and the development of abstract thought in an attempt to elucidate specifically epistemological concerns. I have attempted to show the influence of the most unconscious components of the personality--instinctual, affective, physiological--on reason, which is often assumed to be more objective and detached than is actually the case.

My critique of other theoretical stances is more implicit than explicit, but it seems that the epistemological assumptions of psychology and learning theory have been overly simplistic, ending toward naive empiricism. A project which would complete and expand the present paper would be a closer integration of psychoanalysis and experimental psychology. Psychoanalysis has theoretical links with linguistics, anthropology, neurophysiology, and psychology, as well as philosophy, and could conceivably provide the theoretical nexus which can unify the rather fragmented study of man. I consider its importance for the theory of education coextensive with and equivalent to its potential to construct a theory of mind and knowledge. The two issues need not be demonstrated separately at this point.

Above all, it has been my desire to demonstrate the unity of inner and outer, mind and body, thought and reality, within the interwoven texture of unconscious and conscious components of reason. It is the symbolic expressions of both primary and secondary modes of thought which form the link between such polarities as condensations of the objective and subjective meanings simultaneously inherent in each experience of the environment. It is, of course, the subjective aspects which are most invisible, because most internal, to our understanding. Therefore my attempt to redress this imbalance.

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