

*THE PSYCHIC APPARATUS*

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Let us ask ourselves now, "What is the picture of the mind that we have obtained thus far from our discussion of psychoanalytic theory?"

In framing the answer to our question we see that in the first place we began with two fundamental and well-established hypotheses concerning mental functioning which were essentially of a descriptive character. One of these was the law of psychic causality, and the other was the proposition that psychic activity is principally unconscious.

We understand that these two hypotheses are to be our guide-posts as it were in our further discussion of psychoanalytic theory. As we have just said, they are primarily descriptive in nature. However, in our next topic, the drives, we immediately found ourselves dealing with concepts that were basically dynamic ones. We discussed psychic energy, that impelled the organism to activity until gratification was achieved; the genetically determined pattern of change from one phase of instinctual organization to another as the infant matured; the individual variations that might occur within the broad limits of this pattern; the flow of libido and aggressive energy from object to object during the course of development; the establishment of fixation points; and the phenomenon of the return of psychic energy to those fixation points which we call instinctual regression.

In fact, it is characteristic of psychoanalytic theory that it gives us just such a moving, dynamic picture of the mind

rather than a static and lifeless one. It tries to demonstrate and explain the growth and functioning of the mind to us, as well as the operations of its various parts and their mutual interactions and conflicts. Even the division of the mind which it makes into various parts is made on a dynamic and functional basis, as we shall see in the present chapter and the two succeeding ones, which deal with what Freud called the elements of the psychic apparatus.

The first published attempt which Freud made to construct a model of the psychic apparatus was that which appeared in the last chapter of *The Interpretation of Dreams* (Freud, 1900). He pictured it as similar to a compound optical instrument, like a telescope or microscope, which is made up of many optical elements arranged consecutively. The psychic apparatus was to be thought of as made up of many psychic components arranged consecutively and stretching, if one may use the word, from the perceptual system at one end to the motor system at the other, with the various memory and association systems in between.

Even in this very early schema of the mind, therefore, one sees that the divisions were functional ones. One "part" of the apparatus reacted to sensory stimuli, a closely related part, when activated, produced the phenomenon of consciousness, others stored up memory traces and reproduced them, and so on. From one system to the next there flowed some sort of psychic excitation which energized each in turn and which was presumably conceived of as analogous to the nerve impulse. We can clearly see that Freud's emphasis on a dynamic and functional approach was already a strong one.

This first model was not further elaborated. About a decade later Freud made a new attempt to establish a topography of the mind by dividing its contents and operations on the basis of whether or not they were conscious (Freud, 1913b). In this formulation he distinguished three mental systems, which he named Ucs. (from "unconscious"), Pcs. (from "precon-

scious"), and Cs. (from "conscious"). The abbreviations were to be used as names, in order to avoid confusion with the ordinary meanings of the words from which the abbreviations were derived.

At first glance it seems that this second theory of Freud's about a psychic apparatus is as far removed as possible from being a dynamic and functional one. He appears to be making a division between the parts of the mind on a purely static and qualitative basis: "Is it conscious or not?" In this case, however, first appearances are deceptive, and, this second theory is fundamentally a functional one also, as the following discussion will show.

Freud began by pointing out that the mere attribute of consciousness is an inadequate basis for differentiating among psychic contents and processes. The reason for this is that there are two classes of contents and processes which are not conscious and which can be distinguished from one another by dynamic, functional criteria. The first of these groups does not differ in any essential way from whatever happens to be conscious at the moment. Its elements can be made conscious simply by an effort of attention. Conversely, what is conscious at the moment becomes no longer so when attention is withdrawn from it. The second group of mental processes and contents which are not conscious, however, are different from the first in that they cannot become conscious by any mere effort of attention. They are barred from access to consciousness for the time being by some force within the mind itself.

A simple example of this second group would be a command given under hypnosis, as described in Chapter I, which the subject was to obey after "waking" from the hypnotic trance, but of which he was commanded to have no conscious memory. In this case all that had transpired during the hypnotic trance was barred from consciousness by the hypnotist's command to forget. Or, to be more exact, the memory of the

events of the trance was barred from consciousness by the part of the subject's mind which was obedient to the command to forget them.

It was on this *functional* basis that Freud differentiated between the two systems which he called Ucs. and Pcs. respectively. Those psychic contents and processes which were actively barred from consciousness he called the system Ucs. Those which could become conscious by an effort of attention he called Pcs. The system Cs. of course designated what was conscious in the mind.

Because of their functional closeness, the systems Cs. and Pcs. were grouped together as the systems Cs.-Pcs. in contrast to the system Ucs. The close relationship of Cs. and Pcs. is easy to understand. A thought that belongs to the system Cs. at this moment, is a part of the system Pcs. a few moments later, when attention has been withdrawn from it, and it is no longer conscious. Conversely, at each moment thoughts, wishes, etc., which have till then belonged to the system Pcs., become conscious and consequently part of the system Cs.

Since conscious processes had been known and studied by psychologists long before Freud, it was natural that the principal new contributions and discoveries which he had to make concerned the system Ucs. Indeed, for many years of its development psychoanalysis was rightly called a "depth psychology," that is, a psychology of the Ucs. It was a psychology that was chiefly concerned with the contents and processes of the mind which are barred from consciousness by some psychic force.

As Freud's understanding of the system Ucs. grew, however, he realized that its contents were not as uniform as he had expected them to be. It turned out that there were other criteria than that of being actively barred from consciousness which could be applied to the contents and processes of the mind and since the application of these new criteria seemed to him to result in more homogeneous and useful groupings of

mental contents and processes than the old had done, Freud proposed a new hypothesis concerning mental systems (Freud, 1923). This theory, his third to be published, is usually referred to as the structural hypothesis, to distinguish it from the second, which is often called the topographic theory or hypothesis. The first theory has no special name, though if we were to follow the same procedure in naming it as in naming the other two, it might well be called the telescopic hypothesis.

The structural hypothesis, despite its name, resembles its predecessors in that it attempts to group together mental processes and contents which are functionally related and to distinguish among the various groups on the basis of functional differences. Each of the mental "structures" which Freud proposed in his new theory is in fact a group of mental contents and processes which are functionally related to one another. Freud distinguished three such functionally related groups or "structures" and called them the id, the ego, and the superego respectively.

As a way of giving ourselves a first, rough orientation in this third and final of Freud's theories, we may say that the id comprises the psychic representatives of the drives, the ego consists of those functions which have to do with the individual's relation to his environment, and the superego comprises the moral precepts of our minds as well as our ideal aspirations.

The drives, of course, we assume to be present from birth, but the same is certainly not true of interest in or control of the environment on the one hand, nor of any moral sense or aspirations on the other. It is obvious therefore that neither of the latter, that is neither the ego nor the superego develops till sometime after birth.

Freud expressed this fact by assuming that the id comprised the entire psychic apparatus at birth, and that the ego and the superego were originally parts of the id which dif-

ferentiated sufficiently in the course of growth to warrant their being considered as separate functional entities.<sup>1</sup>

This differentiation takes place first with respect to the ego functions. It is common knowledge that the infant shows an interest in his environment and is able to exercise some degree of control over it long before he develops any moral sense. In fact, Freud's studies led him to the proposition that the differentiation of the superego does not really get under way till the age of five or six years and is probably not firmly established till several years later, perhaps not until ten or eleven years of age. On the other hand, the differentiation of the ego begins within the first six or eight months of life, and is well established by the age of two or three years, though of course much growth and change normally occur after that age too.<sup>2</sup>

Because of these differences in time of development, it will be convenient for us to discuss the differentiation of the ego and of the superego separately, and the nature of the time differences of course requires that we start with the ego.

There is one point which the reader should bear in mind during the following discussion of the differentiation and development of the ego. That is that the many aspects of this development must be discussed and presented seriatim in a book, whereas in real life they are all happening at the same time and each is influencing and being influenced by the other. In order to achieve a fairly adequate picture of ego development, one must be familiar with *all* of its aspects. There is no way of presenting just one aspect at a time and neglecting the

<sup>1</sup> It has been suggested subsequently that there are advantages in assuming that the psychic structure of the newborn is an undifferentiated one, from which the id, the ego, and the superego all develop, rather than to assume that the id is the precursor and in a sense the parent of the other two (Hartmann, Kris, and Loewenstein, 1946).

<sup>2</sup> Certain analysts, notably Melanie Klein and her associates, have advanced the hypothesis that the superego begins to function as an independent, psychic system well before the end of the first year of life. However, this view is not accepted by the majority of psychoanalysts at present.

others which is fully satisfactory. They *should* all be discussed simultaneously, or, since that is impossible, the reader must think about all the other aspects when he is reading about any particular one. Unless the reader has prior acquaintance with the material of the following discussion, this means that he will have to read it at least twice and probably several times. It will be only on re-reading that he will understand more clearly the intimate interrelationships of the various aspects of ego differentiation and development.

We have already said that the group of psychic functions which we call the ego are those which are similar in that each has to do, either principally or to an important degree, with the individual's relation to his environment. In the case of an adult, of course, such a broad formulation includes a very wide range of phenomena: desire for gratification, habit, social pressures, intellectual curiosity, aesthetic or artistic interest, and many others, some of which differ grossly from the rest, while others differ only by the subtlest of nuances.

In childhood, however, and particularly in early infancy there is no such profusion of reasons for interest in the environment, nor is their nature so varied and so subtle. The little child's attitude is very simple and eminently practical: "Give me what I want!" or, "Do what I want!" In other words, the only subjective importance which the environment has for the child originally is as a possible source of gratification or discharge for the wishes, urges, and psychic tensions which arise from the drives and which constitute the id. If we wish to make our statement quite complete, we must add the negative as well, that is, the environment is also important as a possible source of pain or discomfort, in which case the child of course tries to avoid it.

To repeat, the infant's original interest in its environment is as a possible source of gratification. The parts of the psyche which have to do with exploiting the environment gradually develop into what we call the ego. Consequently, the ego is

that part of the psyche which is concerned with the environment for the purpose of achieving a maximum of gratification or discharge for the id. As we noted in Chapter II, the ego is the *executant* for the drives.

Such a cordial cooperation between ego and id is not what we are accustomed to see in our ordinary clinical work. On the contrary, there we daily deal with severe conflicts between ego and id. They are the very stuff of neurosis, and our necessarily continuous preoccupation with such conflicts in our work as clinicians makes it easy for us to forget that conflict is not the only relation between ego and id. Certainly it is not the primary one, which is rather one of cooperation, as we have said.

We do not know at what stage of psychic development conflicts do begin to arise between the ego and the id and to assume serious significance for psychic functioning, but it seems likely that this can happen only after a substantial degree of differentiation and organization of the ego has taken place. At any rate we shall postpone a discussion of such conflicts till somewhat later in our exposition of the development of the ego and the id.

Now what are the activities of the ego vis-à-vis its environment in the earliest months of life? To us as adults they may seem to be almost insignificant, yet a moment's reflection will confirm their importance and we may be sure that despite their *apparent* insignificance they are more important in the life of each of us than any subsequent achievements will ever be.

One obvious group of ego functions is the acquisition of control over the skeletal musculature, which we commonly refer to as motor control. Equally important are the various modalities of sensory perception, which give essential information about the environment. The acquisition of what we might call a library of memories is also necessary as a part of one's equipment if he hopes to influence his en-

vironment effectively. It is obvious that the better one knows what has happened in the past, and the more "pasts" one has experienced, the better one will be able to exploit the present. Incidentally, it seems probable that the earliest memories are those of instinctual gratification.

In addition to these functions, there must be some psychic process in the young infant which corresponds to what we call an affect in later life. What such primitive affects, or predecessors of affects, might be is at the moment only an interesting question that still lacks an answer. Finally, at some time or other in early infancy must come the most distinctly human ego activity of all: the first hesitation between impulse and action, the first delay in discharge, which will subsequently develop into the immensely complex phenomenon which we call thought (Rapaport, 1951).

All of these ego functions—motor control, perception, memory, affects, thinking—begin, as we can see, in a primitive and preliminary way and develop only gradually as the infant grows. Such a gradual development is characteristic of ego functions in general, and the factors which are responsible for the progressive development of the ego's functions are divisible into two groups. The first of these is physical growth, which in this case means primarily the genetically determined growth of the central nervous system. The second is experience, or, if one prefers, experiential factors. For the sake of convenience we may refer to the first factor as maturation (Hartmann and Kris, 1945).

We can readily understand the importance of maturation. An infant cannot achieve effective motor control of its extremities, for example, until after the corticospinal (pyramidal) tracts have been myelinated. Similarly the capacity for binocular vision necessarily depends on the existence of adequate neural mechanisms for conjugate eye movements and for the fusion of macular images. Such maturational factors clearly exert a profound effect on the speed and sequence of

the development of the functions of the ego and the more we can learn about them from the developmental psychologist and others, the better. However, the particular direction of Freud's interest was toward the influence of experiential factors on ego development, although he was well aware of the fundamental importance of genetic factors.

One of the aspects of experience which Freud (1911) considered to be of fundamental importance in the earliest stages of ego formation was, strangely enough, the infant's relation with his own body. He pointed out that our own bodies occupy a very special place in our psychic lives as long as we are alive and that they begin to occupy that special place very early in infancy. He suggested that there is more than one reason for this. For example, a part of the body is different from any other object in the infant's environment in that it gives rise to two sensations rather than one when the infant touches or mouths it. It is not only *felt*, it *feels*, which is not true of any other object.

In addition, and probably even more important, the parts of its own body afford the infant an easy and ever available means of id gratification. For instance, the infant, as the result of maturation, and to some extent of experience as well, usually becomes able to put its thumb or fingers in its mouth at the age of three to six weeks (Hoffer, 1950) and thereby to gratify its desire to suck whenever it wishes to do so. We believe that to an infant so young there is nothing that compares in psychic importance with the oral gratification which accompanies sucking. We can imagine that a correspondingly great importance must attach to the various ego functions (motor control, memory, kinesthesia) which make the gratification of thumb-sucking possible, and to the objects of the drive itself, the thumb and fingers. Moreover, we must remember that the sucking (oral) organs are also of great psychic importance for the same reason, namely that they are intimately related to the all-important experience of pleasure

which is produced by sucking. So both parts of the body, both the sucked and the sucking are, or come to be, of great psychic importance, and their psychic representatives come to occupy an important place among those mental contents which belong under the heading of the ego.

We should add that parts of the body can acquire great psychic importance by virtue of their being frequently the source of painful or *unpleasurable* sensations and by virtue of the additional fact that these painful sensations often cannot be escaped from. If a baby is hungry, for instance, it stays hungry until it is fed. It cannot "pull away" from the feeling of hunger as it can pull its hand away from a painful stimulus and thereby stop it.

At any rate the cumulative effect of these factors and perhaps of others more obscure to us is that the infant's own body, first in its various parts and eventually also *in toto*, occupies a particularly important place within the ego. The psychic representations of the body, that is the memories and ideas connected with it, with their cathexes of drive energy, are probably the most important part of the developing ego in its earliest stage. Freud (1923) expressed this fact by saying that the ego is first of all a body ego.

Still another process which is dependent on experience and which is of very great significance in the development of the ego is what is called *identification* with the objects, usually persons, of the environment. By "identification" we mean the act or process of becoming like something or someone in one or several aspects of thought or behavior. Freud pointed out that the tendency to become like an object in one's environment is a very important part of one's relationship to objects in general and that it appears to be of particular significance in very early life.

As early as the middle of the first year of life one can see evidence of this tendency in the infant's behavior. He learns to smile, for instance, by imitating the adult who is smiling

at him, to talk by imitating what is said to him, and there is a host of imitative games which adults regularly play with growing babies at about this time which depend on the same tendency to imitate. One need only mention "peek-a-boo" and "clap-hands" to be reminded how large a part such games play at this period in childhood.

Another example of the importance of identification can be drawn from the infant's acquisition of language, which of course occurs somewhat later. Simple observation will show us that the child's acquisition of motor speech depends in considerable measure on the psychological tendency to imitate an object in the environment or, in other words, to identify with it. It is perfectly true that a child cannot learn to speak until his central nervous system has matured sufficiently and that the acquisition of language as a whole is far from being simply a process of imitation. Nevertheless, it is true that children ordinarily speak in imitation, at least at first. That is to say they repeat sounds that adults say for them and learn to say them in imitation of an adult, very often as part of a game. Moreover, it is most instructive to observe that *every* child talks with the same "accent" as do the adults and older children of his environment. Intonation, pitch, pronunciation, and idioms are all copied exactly, if the child's hearing is normal. So exactly, indeed, that it makes one wonder whether what we ordinarily call "tone deafness," that is the inability to detect relative differences in pitch, can really be congenital. However that may be, we can have no doubt that identification plays a very great role in the acquisition of this particular ego function that we have called motor speech.

The same thing is true of physical mannerisms, of athletic or intellectual interests and hobbies, of a tendency toward unbridled expression of the instinctual drives like temper tantrums, or of an opposite tendency toward a checking of such expression, and of many other aspects of ego functioning. Some of these aspects are gross and obvious, some are more

subtle and less readily apparent, but when taken all in all it is clear that they represent a very important part of the effect of experience on ego formation.

Of course the tendency to identify with a highly cathected person or thing in the environment is not limited to early childhood by any means. For example, the adolescent who dresses or talks like a screen idol (perhaps today one should say "like a television idol") or like an athletic hero has to that extent identified with him. Such identifications in adolescence may be transient ones, of only passing significance, but they are by no means always so. Educators understand very well, for instance, that it is important that a teacher of adolescents not only teach well, but that he must also be a "good example" to his students, which is another way of saying that his students are apt to become like him, that is to identify with him. To be sure we might not always agree with our friends the educators as to what constitutes a desirable example, but we should all agree that pupils tend to identify with their teachers.

Indeed, this tendency persists throughout life, but in later life at least it is apt to be largely unconscious in its manifestations. In other words, the adult very often does not know that in some aspects of thought or behavior or both he is becoming like, that is, imitating, another person, or that he has already become like him. In earlier life the desire to be like the other person is more likely to be accessible to consciousness, though it is by no means always so. Thus, for example, a small boy makes no secret of wanting to be like his father, or later like Superman or Roy Rogers, while in later life he may grow a moustache which is precisely like his new boss's without being consciously aware of the desire to identify with his boss which underlies his growing a similar moustache.

What we have discussed so far is a tendency toward identifying with persons or things in one's environment which

are highly cathected with libido. It should have been self-evident from our discussion that this tendency is a perfectly normal one, although it seems to be a more prominent and relatively more important one during early mental life than later on.

It is interesting to note that there is also a tendency to identify with those objects which are highly cathected with aggressive energy. This seems to be particularly true if the object or person in question is powerful, a type of identification which has been called "identification with the aggressor" (A. Freud, 1936). In such cases, of course, the individual has the satisfaction of himself participating, at least in fantasy, in the power and glory he attributes to his opponent. The same sort of satisfaction incidentally is afforded to the individual, whether he be child or adult, who identifies with an admired object cathected principally with libido. See for instance our earlier examples of identifications with parents, teachers, popular idols, and employers.

However, the best evidence we have is in favor of the view that identification is only *secondarily* connected with fantasies of replacing an admired object in order to profit therefrom by taking over the admired person's rights and properties. There is no doubt that this is a very powerful motive in many cases in which it plays a role, but it seems that the tendency to identify with an object is simply a consequence of its libidinal cathexis, since it can be observed at a time in infancy long before any such motive as envy or any fantasy such as one of replacing an envied person could very well be conceived to be operative. Whether identification can also be the direct consequence of a high cathexis with aggressive energy is a question that has yet to be answered.

Freud (1916a) emphasized another factor which plays an important part in the process of identification. This factor he called object loss, by which he meant the physical death of the object, or long-continued or permanent separation from

it. In such cases, he discovered that there was a strong tendency to identify with the lost person and indeed clinical experience has repeatedly confirmed the correctness and significance of Freud's discovery. Cases in point will vary all the way from the son who becomes a replica of his father after the latter's death and carries on his father's business just as his father used to do, as though he were the old man himself, which indeed he very nearly is, to the patient cited by Freud (1916a) who accused *herself* of crimes which in fact her dead father had committed. The first of these two examples we should call normal, of course, while the second was a patient who suffered from a severe mental illness.

As our examples suggest, the loss of a highly cathected person by death or separation may well have a crucial effect on one's ego development. In such cases there remains a lasting need to imitate or to become the image of what has been lost. The cases of this sort which have been most often studied in psychoanalytic practice are ones of depression, a clinical condition in whose psychopathology unconscious identification with a lost object regularly plays an important role.

Thus we see that identification plays its part in ego development on more than one score. It is first of all an inherent part of one's relationship to a highly cathected object, particularly early in life. In addition we have noted the tendency to identify with an admired though hated object, which Anna Freud called "identification with the aggressor." Finally there is the last-mentioned factor that the loss of a highly cathected object leads to a greater or less degree of identification with the lost object. However, regardless of the way in which identification takes place, the *result* is always that the ego has become enriched thereby, whether for better or for worse.

We wish to discuss now another topic which is also intimately related to the subject of the differentiation of the ego and the id from one another. This is the topic of the modes



of functioning of the psychic apparatus which we call the *primary* and the *secondary processes* (Freud, 1911).

The primary process was so named because Freud considered it to be the original or primary way in which the psychic apparatus functioned. We believe that the id functions in conformity with the primary process throughout life and that the ego does so during the first years of life, when its organization is immature and naturally still very much like the id, whence it so recently sprang, in its functioning. The secondary process, on the other hand, develops gradually and progressively during the first years of life and is characteristic of the operations of the relatively mature ego.

Each of the terms "primary process" and "secondary process" is used in the psychoanalytic literature to refer to two related but distinct phenomena. The words "primary process," for example, may refer either to a certain type of thinking which is characteristic for the child whose ego is still immature, or to the way in which we believe drive energy, whether libidinal or aggressive, is shifted about and discharged in the id or in the immature ego. In an analogous way, "secondary process" may refer to a type of thinking which is characteristic for the mature ego or it may refer to the processes of binding and mobilization of psychic energy which are believed to occur in the mature ego. The two types of thinking have the greater clinical importance and are fairly accessible to study. The two ways of dealing with and discharging psychic energy occupy a more important place in our theory, but are less accessible to study, as is true for all our hypotheses concerning psychic energy.

Let us first discuss what phenomena in the management of psychic energy are meant when we speak of primary or of secondary process.

As for the primary process, its basic characteristics can be described rather simply in terms of our previous theoretical formulations concerning drive energy. We have simply to say

that the drive cathexes which are associated with the primary process are highly mobile ones. We believe that this cathectic mobility accounts for two striking characteristics of the primary process: (1) the tendency to immediate gratification (discharge of cathexis) which is characteristic for the id and the immature ego, and (2) the ease with which the cathexis can be shifted from its original object or method of discharge in the event that these are blocked or inaccessible and instead be discharged by a similar, or even by a rather different route.

The first characteristic, the tendency to immediate gratification or discharge of cathexis, is clearly the dominant one in infancy and childhood, while the ego functions are still immature. In addition it is very much more common in later life than our vanity would like to admit and the investigation of unconscious mental processes by the method of psychoanalysis, in particular of those processes which we call the id, has shown that the tendency to immediate discharge of cathexis is characteristic of the id throughout our lives.

As for the second characteristic, the ease with which one method of discharge of cathexis can substitute for another may perhaps best be illustrated with some simple examples. We are offered one such example by the infant who sucks his thumb when he is unable to get the breast or the bottle. The cathexis of drive energy associated with the impulse or desire to suck is primarily, i.e., first, directed toward the psychic representatives of the breast or bottle. The cathexis is a mobile one, however, and if discharge cannot be effected by sucking either breast or bottle because they are inaccessible, the cathexis shifts to the infant's thumb which *is* accessible, the infant sucks its thumb instead, and discharge of cathexis is effected.

Another instance would be that of the child who plays with mud pies. Play with feces is no longer an accessible form of discharge of cathexis because it has been forbidden, so the

child, because of the mobility of the cathexis attached to the psychic representatives of its feces, can obtain the same gratification by shifting the cathexis to mud and achieving discharge of cathexis by playing with mud instead. In the same way we are familiar with the child who beats or teases his little brother when he is angry with his mother, or the man who shouts at his children at night because he didn't dare to express his anger at his employer during the day.

When we turn to a consideration of the secondary process, we find that a very different state of affairs exists. Here the emphasis is on the ability or capacity to *delay* the discharge of cathectic energy. We might say that the point seems to be, to be able to delay discharge until the environmental circumstances are most favorable. To be sure, this is an anthropomorphic formulation, but after all, we are talking about the ego, which is *anthropos* itself (Hartmann, 1953b). In any case the capacity to delay discharge is an essential feature of the secondary process.

Another of its essential features is that the cathexes are much more firmly attached to a particular object or method of discharge of cathexis than was the case with the primary process. Here again, as in the case of the first characteristic, that is the capacity to delay gratification, the differences between primary and secondary processes are quantitative rather than qualitative.

By the same token the transition from the one to the other is gradual, both historically, in tracing the growth and development of a particular individual, as well as descriptively, in attempting to draw the line between primary and secondary processes in studying the mental functioning of a particular person. It is not usually hard to say that certain thinking or behavior bears such and such traces of the primary or secondary process, but no man can say, "Here ends the primary process and there begins the secondary." The change from primary to secondary process is a gradual one which is a part

of the differentiation and growth of those mental processes which form what we call the ego.

As we said earlier, the terms primary and secondary process also designate two different types or modes of thinking. Again we believe that primary process thinking appears earlier in life than does secondary process thinking and that the latter develops gradually as one part or aspect of ego development.

If we try now to define and describe these two modes of thinking, we shall find that the secondary one is easier to describe than the primary one, because it is the more familiar to us. It is ordinary, conscious thinking as we know it from introspection, that is, primarily verbal and following the usual laws of syntax and logic. It is the mode of thinking that we ordinarily attribute to the relatively mature ego and since it is familiar to us all, it needs no special, further description.

Primary process thinking, on the other hand, is the mode of thinking which is characteristic of those years of childhood when the ego is still immature. It is different in important respects from our familiar ways of conscious thinking, which we call the secondary process; so different, indeed, that the reader may doubt whether primary process thinking has any place in the normal as opposed to the pathological functioning of the mind. It is important to emphasize, therefore, that primary process thinking is *normally* the dominant mode of thought for the immature ego, and that it normally persists in some degree into adult life as well, as we shall soon see.

To proceed now with our description of primary process thinking, we may start with one of its characteristics which often produces a strong impression of strangeness and incomprehensibility. This is the absence of any negatives, conditionals, or other qualifying conjunctions. If something is stated, one can tell only by the context whether it is meant to be understood in the positive or in the negative, or perhaps even in the conditional or the optative sense. Opposites may appear in place of one another and mutually contradictory

ideas may coexist peacefully. It really seems that we shall have a difficult time to show that this kind of thinking is not wholly pathological, but before we discuss this point further, let us complete our description of the primary process as a mode of thought.

In primary process thinking representation by allusion or analogy is frequent and a part of an object, memory or idea may be used to stand for the whole, or vice versa. Moreover, several different thoughts may be represented by a single thought or image. In fact verbal representation is not used nearly as exclusively in primary as in secondary process thinking. Visual or other sense impressions may appear instead of a word, or for that matter instead of a paragraph or a whole chapter of words. As a final characteristic we may add that a sense of time, or a concern with time does not exist in primary process thinking. There is no such thing as "before" or "after," as "now" or "then," as "first," "next," or "last." Past, present and future are all one in the primary process.

Now it is true that primary process thinking is apparent in many cases of severe mental illness and may be so conspicuous a part of mental life as to contribute prominently to the symptoms which these patients manifest. This is the case in the various deliria associated with toxic or organic disease of the brain as well as in severe diseases of undetermined etiology such as schizophrenia and manic-depressive psychosis. However, primary process thinking is not in itself pathological. The abnormality in such cases is the relative absence or disappearance of secondary process thinking, rather than the presence of primary process thinking. It is the *dominance* or *exclusive operation* of the primary process that constitutes an abnormality when it occurs in adult life. Despite the initial impression of strangeness which primary process thinking makes upon us, the following considerations may help to make it more understandable to us. They may even persuade us that it is in fact more familiar to us than we had imagined.

The lack of a sense of time, for instance, we can understandably relate to what we know of the intellectual development of little children. It is several years before a child develops a sense of time, before there is anything comprehensible to him but the "here and now," so that this characteristic of primary process thinking is but a familiar trait of early childhood.

The same is true, of course, for the tendency to represent ideas in a nonverbal way. This is, after all, the way the preverbal child must think.

As for the confusing and illogical, syntactical features which we have described, the use of qualifying conjunctions and even the use of the negative particle are much more common in written than in spoken speech, where so much of the sense is conveyed by context, gestures, facial expression, and the tone of the speaker's voice. Moreover, the more colloquial and informal the manner of speaking, the simpler the syntax, and the more ambiguous are the words themselves likely to be if they should be removed from context. For instance, the words "He's a great one," can mean very different things if the speaker intends them to be serious, funny, or sarcastically critical. In fact, if the last of these possibilities is true, that is, if the speaker is being sarcastic, the word "great" will mean precisely the opposite of the definition which the dictionary gives for it. Such representation by the opposite, which at first sight is one of the most bewildering of the characteristics of primary process thinking, thus turns out to be common enough in everyday usage. So common, indeed, that we are hardly aware of its frequency unless we pay special attention to it.

Similarly, representation of a part by the whole, or vice versa, or representation by analogy or allusion, are ways of thinking that are seriously pursued in poetry and are found just as frequently in other less serious mental productions such as jokes and slang. Even the representation of ideas

in a nonverbal way creeps into our conscious lives quite often. We speak of pictures "that tell a whole story, better than words could do"; and though the artistically sophisticated among us may not have a very high critical regard for serious paintings which try to tell a story, we will all recognize the frequency of such attempts in humorous cartoons, caricatures, and advertising illustrations, for instance.

These examples all go to show that the characteristics of primary process thinking are not as alien to the conscious thinking of adult life as we assumed at first. They obviously persist throughout life and continue to play a rather considerable role, though a subordinate one. In addition, as we shall see in later chapters, the ego normally preserves a capacity for reverting temporarily to immature patterns which are characteristic of childhood. This is particularly evident in the games, jokes and play of adults, whether spiced with alcohol or not. It also occurs during sleep in dreaming as well as in the daydreams of waking life. In all such cases there is apparent a temporary increase in the importance of primary process thinking as compared with secondary process thinking, the type which is normally the dominant one in adult life, as we have said.

Although we have now covered the essentials of primary and secondary process thinking, there are a few more points to be added which will facilitate the reader's approach to the psychoanalytic literature concerning these subjects.

In the first place, there are a couple of terms in accepted use in the psychoanalytic literature to designate some of the features of primary process thinking which it would be well to define. The first of these terms is "displacement," the second is "condensation."

When used in its technical, psychoanalytic sense "displacement" refers to the representation of a part by the whole, or vice versa, or, in general, the substitution of one idea or image by another which is associatively connected with it.

Freud assumed that such substitutions were due to or depended on a shift in the cathexis, that is, in the charge of psychic energy, from the one to the other thought or idea. Hence his choice of the word "displacement": what is displaced is the cathexis. Incidentally this term illustrates the close relation between primary process thinking and the characteristic ways of regulating drive energy which are also called primary process. In this case the ready tendency to displacement which is characteristic of primary process thinking is related to the mobility of cathexes which we have described as characteristic of the primary process proper.

The term "condensation" is used to indicate the representation of several ideas or images by a single word or image, or even a part of one. In this case the choice of the word "condensation" refers to the fact that much is expressed by little and has no reference to the regulation or discharge of cathexes.

There is one other characteristic of primary process thinking which is usually considered as though it were a separate and special one, although it would seem to be rather an example of one of the characteristics we have already discussed, that is displacement. This characteristic is what we call symbolic representation in the analytic sense of the word "symbolic."

Fairly early in his study of dreams and of neurotic symptoms Freud (1900) found that some elements in dreams or symptoms had a meaning which was relatively constant from patient to patient, which was different from their ordinarily accepted meaning, and, strangest of all, which was unknown to the patient himself! For instance, a pair of sisters in a dream nearly always stood for some thoughts about breasts, a journey or absence stood for death, money stood for feces, and so on. It was as though there was a secret language that people used unconsciously, without being able to understand it consciously, and the vocabulary of this language, so to speak, Freud called symbols. In other words, in the primary process,

money may be used as a symbol, that is, as a full equivalent for feces, travel may be used for death, etc. This is truly a remarkable state of affairs, and it is not surprising that this discovery excited great interest and equally great opposition. To be sure, it is possible that both the interest and the opposition were as much due to the fact that many of the objects and ideas which are represented symbolically are forbidden ones; that is, sexual or "dirty."

The list of what may be represented by a symbol is not very long. It comprises the body and its parts, particularly the sexual organs, buttocks, anus, urinary and alimentary tracts, and the breasts; members of the immediate family, as mother, father, sister and brother; certain bodily functions and experiences, such as sexual intercourse, urination, defecation, eating, weeping, rage, and sexual excitement; birth; death; and a few others. The reader will notice that these are things which are of great interest to the small child, in other words that they are things important to an individual at a time when his ego is still immature and the primary process plays a major role in his thinking.

This completes our discussion of the primary and secondary processes. We wish to turn now to another aspect of the theory of drive energy as it has to do with the differentiation of the ego from the id and its subsequent development.

The aspect to which we refer is called the *neutralization of drive energy* (Freud, 1923; Hartmann, Kris, and Loewenstein, 1949). As a result of neutralization, drive energy which would otherwise press imperiously to discharge as soon as possible, like all id cathexes, becomes available to the ego and at the ego's disposal for carrying out its various tasks and wishes according to the secondary process. We thus relate unneutralized drive energy to the primary process and neutralized drive energy to the secondary process, although we are not certain of the precise relationship between neutralization and the establishment and operation of the secondary process.

What we do know are, first, that neutralization is a progressive rather than a sudden transition, and second, that the energy which it makes available to the ego functions is essential to the ego. Without it the ego cannot function adequately, if at all (Hartmann, 1953a).

When we say that neutralization is progressive we mean that it is a transformation that occurs little by little over an extended period of time. Like the other changes which are associated with ego development it is a change that takes place gradually and that parallels the ego's growth, to which, as we have said, it contributes such an important share.

If we try now to define neutralized energy, the simplest, comprehensive definition we can offer is that it is energy which has been appreciably altered from its original, sexual or aggressive character. We should interpolate that this concept of the denaturation of drive energy was first introduced by Freud at a time when the only instinctual drive which was recognized was the sexual one (Freud, 1905b). As a result, in discussing the process which we are now considering, he referred to it as desexualization. In more recent years the word "desaggressivization" has been introduced as a companion term (Hartmann, Kris, and Loewenstein, 1949) but for the sake of simplicity and euphony it seems preferable to speak simply of neutralization, whether of sexual or of aggressive energy.

The term neutralization implies that an activity of the individual which originally afforded drive satisfaction through discharge of cathexis ceases to do so and comes to be in the service of the ego, apparently nearly or quite independent of the need for gratification or discharge of cathexis in anything which even approaches its original instinctual form. Perhaps the following example will serve to make things more understandable.

The child's earliest attempts to talk afford a discharge for various drive cathexes, as do the other activities of the imma-

ture ego in general. Just what drive energies of the little child are discharged in talking may be difficult or impossible to know fully and accurately, but we shall certainly agree on several of them: expression of emotion, identification with an adult or older sibling, and playing a game with and winning the attention of an adult, let us say. We shall also agree, however, that in time the use of language comes to be largely *independent* of such gratification and is available for the communication of thought even in the absence of such direct gratifications as those which first accompanied it: what was originally drive energy has been neutralized and is at the service of the ego.

We wish to emphasize that the relationship between such an activity as talking and drive satisfaction is normal at an early stage of life. Without the contribution made by the energy of the drives the acquisition of language would be seriously impeded, if indeed it could take place at all. One can see clinical examples of this fact in the mutism of withdrawn, psychotic children, who have no gratifying relationship with adults and whose speech only returns or first develops when in the course of treatment they begin to have such relationships again, or for the first time. On the other hand, if the drive energy involved does not become sufficiently neutralized, or if, in later life, the neutralization is undone, and talking, or the neutral energy available for it, is re-instinctualized, then neurotic conflicts may interfere with what had been hitherto an ego function which was available to the individual regardless of inner conflict. Examples of the consequence of such instinctualization are afforded by childhood stuttering (inadequate neutralization) and hysterical aphonia (re-instinctualization). We may add in passing that re-instinctualization (deneutralization) is one aspect of the phenomenon of regression, to which we have already referred in Chapter II and which we shall discuss again in Chapter IV.

The concept that neutralized energy is at the disposal of

the ego for the execution of many of its functions accords with the fact that these operations of the ego are autonomous in the sense that they are ordinarily undisturbed by the flux of the drives, at least after early childhood, or by the intrapsychic conflicts which are stirred up by the drives (Hartmann, Kris, and Loewenstein, 1946). However, their autonomy is a relative, not an absolute one, and as we have said above, in some pathological situations the energy at their disposal may be re-instinctualized and the functions themselves become affected by, or even at the mercy of the wishes arising from the drives, or by the conflicts over those wishes.

#### SUGGESTED READING

- FREUD, S. *The Ego and the Id*. London: Hogarth Press, 1927.  
 FREUD, S. Chapter 3, Lecture XXXI, *New Introductory Lectures on Psychoanalysis*. New York: W. W. Norton & Co., Inc., 1933.  
 RAPAPORT, D., ed. *Organization and Pathology of Thought*. New York: Columbia University Press, 1951.