

Six  
Psychological  
Studies

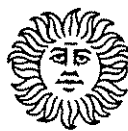
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## CHAPTER 1

# The Mental Development of the Child<sup>1</sup>

THE PSYCHOLOGICAL DEVELOPMENT that starts at birth and terminates in adulthood is comparable to organic growth. Like the latter, it consists essentially of activity directed toward equilibrium. Just as the body evolves toward a relatively stable level characterized by the completion of the growth process and by organ maturity, so mental life can be conceived as evolving toward a final form of equilibrium represented by the adult mind. In a sense, development is a progressive equilibration from a lesser to a higher state of equilibrium. From the point of view of intelligence, it is easy to contrast the relative instability and incoherence of childhood ideas with the systemization of adult reason. With respect to the affective life, it has frequently been noted how extensively emotional equilibrium increases with age. Social relations also obey the same law of gradual stabilization.

An essential difference between the life of the body and that of the mind must nonetheless be stressed if the dynamism inherent in the reality of the mind is to be respected. The final form of equilibrium reached through organic growth is more static and, above all, more unstable than the equilibrium toward which mental development strives, so that no sooner has ascending evolution terminated than a regressive evolution automatically starts, leading to old age. Certain psychological

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functions that depend closely on the physical condition of the body follow an analogous curve. Visual acuity, for example, is at a maximum toward the end of childhood, only to diminish subsequently; and many other perceptual processes are regulated by the same law. By contrast, the higher functions of intelligence and affectivity tend toward a "mobile equilibrium." The more mobile it is, the more stable it is, so that the termination of growth, in healthy minds, by no means marks the beginning of decline but rather permits progress that in no sense contradicts inner equilibrium.

It is thus in terms of equilibrium that we shall try to describe the evolution of the child and the adolescent. From this point of view, mental development is a continuous construction comparable to the erection of a vast building that becomes more solid with each addition. Alternatively, and perhaps more appropriately, it may be likened to the assembly of a subtle mechanism that goes through gradual phases of adjustment in which the individual pieces become more supple and mobile as the equilibrium of the mechanism as a whole becomes more stable. We must, however, introduce an important distinction between two complementary aspects of the process of equilibration. This is the distinction between the variable structures that define the successive states of equilibrium and a certain constant functioning that assures the transition from any one state to the following one.

There is sometimes a striking similarity between the reactions of the child and the adult, as, for example, when the child is sure of what he wants and acts as adults do with respect to their own special interests. At other times there is a world of difference—in games, for example, or in the manner of reasoning. From a functional point of view, i.e., if we take into consideration the general motives of behavior and thought, there are constant functions common to all ages. At all levels of development, action presupposes a precipitating factor: a physiological, affective, or intellectual need. (In the latter case, the need

appears in the guise of a question or a problem.) At all levels, intelligence seeks to understand or to explain, etc. However, while the functions of interest, explanation, etc., are common to all developmental stages, that is to say, are "invariable" as far as the functions themselves are concerned, it is nonetheless true that "interests" (as opposed to "interest") vary considerably from one mental level to another, and that the particular explanations (as opposed to the function of explaining) are of a very different nature, depending on the degree of intellectual development. In addition to the constant functions, there are the variable structures. An analysis of these progressive forms of successive equilibrium highlights the differences from one behavioral level to another, all the way from the elementary behavior of the neonate through adolescence.

The variable structures—motor or intellectual on the one hand and affective on the other—are the organizational forms of mental activity. They are organized along two dimensions—intrapersonal and social (interpersonal). For greater clarity we shall distinguish six stages or periods of development which mark the appearance of these successively constructed structures:

- 1) The reflex or hereditary stage, at which the first instinctual nutritional drives and the first emotions appear.
- 2) The stage of the first motor habits and of the first organized percepts, as well as of the first differentiated emotions.
- 3) The stage of sensorimotor or practical intelligence (prior to language), of elementary affective organization, and of the first external affective fixations. These first three stages constitute the infancy period—from birth till the age of one and a half to two years—i.e., the period prior to the development of language and thought as such.
- 4) The stage of intuitive intelligence, of spontaneous interpersonal feelings, and of social relationships in which the child is subordinate to the adult (ages two to seven years, or "early childhood").

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5) The stage of concrete intellectual operations (the beginning of logic) and of moral and social feelings of cooperation (ages seven to eleven or twelve, or "middle childhood").

6) The stage of abstract intellectual operations, of the formation of the personality, and of affective and intellectual entry into the society of adults (adolescence).

Each of these stages is characterized by the appearance of original structures whose construction distinguishes it from previous stages. The essentials of these successive constructions exist at subsequent stages in the form of substructures onto which new characteristics have been built. It follows that in the adult each stage through which he has passed corresponds to a given level in the total hierarchy of behavior. But at each stage there are also temporary and secondary characteristics that are modified by subsequent development as a function of the need for better organization. Each stage thus constitutes a particular form of equilibrium as a function of its characteristic structures, and mental evolution is effectuated in the direction of an ever-increasing equilibrium.

We know which functional mechanisms are common to all stages. In an absolutely general way (not only in comparing one stage with the following but also in comparing each item of behavior that is part of that stage with ensuing behavior), one can say that all action—that is to say, all movement, all thought, or all emotion—responds to a need. Neither the child nor the adult executes any external or even entirely internal act unless impelled by a motive; this motive can always be translated into a need (an elementary need, an interest, a question, etc.).

As Claparède [1951] has shown, a need is always a manifestation of disequilibrium: there is need when something either outside ourselves or within us (physically or mentally) is changed and behavior has to be adjusted as a function of this change. For example, hunger or fatigue will provoke a search for nourishment or rest; encountering an external object will lead to a need to play, which in turn has practical ends, or it

leads to a question or a theoretical problem. A casual word will excite the need to imitate, to sympathize, or will engender reserve or opposition if it conflicts with some interest of our own. Conversely, action terminates when a need is satisfied, that is to say, when equilibrium is re-established between the new factor that has provoked the need and the mental organization that existed prior to the introduction of this factor. Eating or sleeping, playing or reaching a goal, replying to a question or resolving a problem, imitating successfully, establishing an affective tie, or maintaining one's point of view are all satisfactions that, in the preceding examples, will put an end to the particular behavior aroused by the need. At any given moment, one can thus say, action is disequilibrated by the transformations that arise in the external or internal world, and each new behavior consists not only in re-establishing equilibrium but also in moving toward a more stable equilibrium than that which preceded the disturbance.

Human action consists of a continuous and perpetual mechanism of readjustment or equilibration. For this reason, in these initial phases of construction, the successive mental structures that engender development can be considered as so many progressive forms of equilibrium, each of which is an advance upon its predecessor. It must be understood, however, that this functional mechanism, general though it may be, does not explain the content or the structure of the various needs, since each of them is related to the organization of the particular stage that is being considered. For example, the sight of the same object will occasion very different questions in the small child who is still incapable of classification from those of the older child whose ideas are more extensive and systematic. The interests of a child at any given moment depend on the system of ideas he has acquired plus his affective inclinations, and he tends to fulfill his interests in the direction of greater equilibrium.

Before examining the details of development we must try to find that which is common to the needs and interests present at all ages. One can say, in regard to this, that all needs tend first

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of all to incorporate things and people into the subject's own activity, i.e., to "assimilate" the external world into the structures that have already been constructed, and secondly to readjust these structures as a function of subtle transformations, i.e., to "accommodate" them to external objects. From this point of view, all mental life, as indeed all organic life, tends progressively to assimilate the surrounding environment. This incorporation is effected thanks to the structures or psychic organs whose scope of action becomes more and more extended. Initially, perception and elementary movement (prehension, etc.) are concerned with objects that are close and viewed statically; then later, memory and practical intelligence permit the representation of earlier states of the object as well as the anticipation of their future states resulting from as yet unrealized transformations. Still later intuitive thought reinforces these two abilities. Logical intelligence in the guise of concrete operations and ultimately of abstract deduction terminates this evolution by making the subject master of events that are far distant in space and time. At each of these levels the mind fulfills the same function, which is to incorporate the universe to itself, but the nature of assimilation varies, i.e., the successive modes of incorporation evolve from those of perception and movement to those of the higher mental operations.

In assimilating objects, action and thought must accommodate to these objects; they must adjust to external variation. The balancing of the processes of assimilation and accommodation may be called "adaptation." Such is the general form of psychological equilibrium, and the progressive organization of mental development appears to be simply an ever more precise adaptation to reality. We shall now examine these stages of adaptation more closely.

### 1. THE NEONATE AND THE INFANT

The period that extends from birth to the acquisition of language is marked by an extraordinary development of the mind.

Its importance is sometimes underestimated because it is not accompanied by words that permit a step-by-step pursuit of the progress of intelligence and the emotions, as is the case later on. This early mental development nonetheless determines the entire course of psychological evolution. In fact, it is no less than a conquest by perception and movement of the entire practical universe that surrounds the small child. At eighteen months to two years this "sensorimotor assimilation" of the immediate external world effects a miniature Copernican revolution. At the starting point of this development the neonate grasps everything to himself—or, in more precise terms, to his own body—whereas at the termination of this period, i.e., when language and thought begin, he is for all practical purposes but one element or entity among others in a universe that he has gradually constructed himself, and which hereafter he will experience as external to himself.

Step by step, we shall describe the stages of this Copernican revolution in its twofold aspect of intelligence and nascent affective life. With respect to the development of intelligence, we have already cited three stages between birth and the end of the first period: the reflex stage, the stage of the organization of percepts and habits, and the stage of sensorimotor intelligence itself.

At birth, mental life is limited to the exercise of reflex apparatuses, i.e., of hereditarily determined sensory and motor coordinations that correspond to instinctual needs, such as nutrition. To the extent that these reflexes bear on the behavior that will play a role in subsequent psychological development, they have none of the mechanical passivity that might be attributed to them. On the contrary, from the very outset, they manifest genuine activity, which is the best evidence for the existence of precocious sensorimotor assimilation. The sucking reflexes, for example, become refined, and the neonate sucks better after one or two weeks than during the first days. At a somewhat later age, these reflexes lead to practical discriminations and recognitions that are easily observed. Still later, and most im-

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portant, these reflexes give rise to a kind of generalization of activity. The infant is not content to suck only when he nurses; he also sucks at random. He sucks his fingers when he encounters them, then whatever object may be presented fortuitously, and finally he coordinates the movement of his arms with the sucking until he is able to introduce his thumb into his mouth systematically, sometimes as early as the second month. In short, the infant assimilates a part of his universe to his sucking to the degree that his initial behavior can be described by saying that for him the world is essentially a thing to be sucked. In short order, this same universe will also become a thing to be looked at, to listen to, and, as soon as his own movements allow, to shake.

The diverse exercise of reflexes, which is the forerunner of mental assimilation, rapidly becomes complicated as it is integrated into habits and organized percepts. We are then at the threshold of new behaviors acquired with the aid of experience. Systematic thumb-sucking belongs to this second stage, as does the turning of the head in the direction of a sound or the following of a moving object, etc. From the perceptual point of view, from the time a child starts to smile (from the fifth week on), he recognizes certain persons as distinct from others, etc. We must not, however, assume that he conceptualizes a person or even an object. Persons and objects are tangible and animated apparitions which he recognizes as such, but this proves nothing with respect to their substantiality, nor as to the dissociation between the self and the external universe. Between three and six months (usually at around four and a half months) the infant begins to grasp what he sees; this capacity for prehension and then for manipulation broadens his potentiality for acquiring new habits.

At the outset of life there is only one kind of system, which might be called sensorimotor schemata. These elementary sensorimotor schemata are then differentiated into new motor systems (habits) and new perceptual organizations. The point of departure for this differentiation is always a reflex cycle. This

cycle does not, however, merely repeat itself. It incorporates new elements and together with them constitutes broader organized totalities by means of progressive differentiation. Subsequently, it suffices that the infant's random movements fortuitously produce something interesting (interesting because it can be assimilated into a prior schema) for him to repeat these new movements immediately. This "circular reaction," as it has been called,<sup>2</sup> plays an essential role in sensorimotor development and represents a more advanced form of assimilation.

We now come to the third stage, which is even more important to the course of development: the stage of practical and sensorimotor intelligence itself. Intelligence actually appears well before language, that is to say, well before internal thought, which presupposes the use of verbal signs (internalized language). It is an entirely practical intelligence based on the manipulation of objects; in place of words and concepts it uses percepts and movements organized into "action schemata." For example, to grab a stick in order to draw up a remote object is an act of intelligence (and a fairly late developing one at that: about eighteen months). Here, an instrument, the means to an end, is coordinated with a pre-established goal. In order to discover this means, the subject must first understand the relationship between the stick and the objective. A more precocious act of intelligence consists in bringing the objective closer by means of pulling the support on which it is resting. This occurs toward the end of the first year. Many other examples could be cited.

Let us see how these acts of intelligence are constructed. Two kinds of factors are involved. First of all, early behavior becomes increasingly elaborated and differentiated to the point where the infant acquires sufficient behavioral facility for him to notice the results of his actions. In these "circular reactions" the baby is not content merely to reproduce movements and gestures that have led to an interesting effect. He varies them intentionally in order to study the results of these variations and thus gives himself over to true explorations or to "experi-

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ments in order to see." This is exemplified by the behavior of the twelve-month-old child who throws objects on the ground in one direction or another in order to see how and where they fall.

Secondly, the "action schemata" constructed at the previous stage and multiplied through new experimental behaviors become capable of coordinating with one another through a process of reciprocal assimilation. This process is analogous to what will occur later in the ideas or concepts of thought itself. In effect, an action that can be repeated and generalized to a new situation might be thought of as a kind of sensorimotor concept. For example, a baby presented with a new object successively incorporates it into each of his "action schemata" (shaking it, stroking it, balancing it, etc.), as though he could come to know the object by perceiving how it is used. (At five or six years children still define concepts by starting with the words, "It is for": a table "is for writing on," etc.) The sensorimotor assimilation at this stage is comparable to what will later be an assimilation of reality by ideas and thought. It is natural, then, that these various action schemata should become assimilated with one another, i.e., coordinated so that some serve as a goal for action as a whole, while others serve as a means. This coordination of the action schemata is comparable to, but more mobile and supple than, the coordination of the preceding stage. It introduces practical intelligence itself.

The result of this intellectual development is in effect to transform the representation of things to the point of completely changing or inverting the subject's initial position with respect to them. At the outset of mental evolution there is no definite differentiation between the self and the external world, i.e., impressions that are experienced and perceived are not attached to a personal consciousness sensed as a "self," nor to objects conceived as external to the self. They simply exist in a dissociated block or are spread out on the same plane, which is neither internal nor external but midway between these two poles. These opposing poles will only gradually become differen-

tiated. It follows that, because of this primitive lack of dissociation, everything that is perceived is centered on the subject's own activity. The self is at the center of reality to begin with for the very reason that it is not aware of itself, while the external world will become objectified to the degree that the self builds itself as a function of subjective or internal activity. In other words, consciousness starts with an unconscious and integral egocentricity, whereas the progress of sensorimotor intelligence leads to the construction of an objective universe in which the subject's own body is an element among others and with which the internal life, localized in the subject's own body, is contrasted.

Four fundamental processes characterize the intellectual revolution that is accomplished during the first two years of existence. These are the construction of the categories of the object, of space, of causality, and of time.<sup>5</sup> All four refer, of course, to purely practical or action categories and not as yet to ideas or thinking.

The practical schema of the object is the substantial permanence attributed to sensory pictures. It is the belief that what is seen corresponds to "something" which continues to exist even when one does not perceive it. It is easy to demonstrate that during the first months the infant does not perceive objects in this sense. He recognizes certain familiar sensory pictures, it is true, but the fact that he recognizes them when they are present by no means implies that he can place them when they are no longer within his perceptual field. In particular, he recognizes persons and he knows very well that when he cries he can make his mother return after she has disappeared, but this by no means proves that when he no longer sees her he attributes to her a body existing in space. Actually, when the infant begins to grasp what he sees, he at first shows no search behavior when the toys he wants are covered by a handkerchief. This is so even when he has visually followed what is being done. Later on he will look for the hidden object but without noticing its successive displacements. It is as though each object were

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part of the configuration as a whole and could not be moved separately. It is only toward the end of the first year that objects are sought out when they leave the perceptual field; this is a criterion for the beginning of the externalization of the material world. In short, the initial absence of substantive objects, followed by the construction of solid and permanent objects, is the first example of the transition from primitive, total egocentricity to the final elaboration of an external universe.

The evolution of practical space is entirely at one with the construction of objects. At the outset there are as many spaces—uncoordinated among themselves—as sensory fields (oral spaces, visual spaces, tactile spaces, etc.), and each one of them is centered on the child's own movements and activity. Visual space, in particular, does not have the same depth at the outset that it will have later on. By the end of the second year, however, a sense of general space has been acquired which includes all the other particular spaces and which is characterized by relationships among objects and between objects and the child's own body. The elaboration of space is essentially derived from the coordination of movements so that there is a direct relationship between the development of a sense of space and of sensorimotor intelligence.

Causality is linked first of all with the child's own activity and his egocentrism. It is the link—which for a long time will seem to the child to be fortuitous—between an empirical result and some action that has brought it about. For example, when an infant pulls at the cords that hang from the top of his crib and the toys also suspended from the top start to shake, he will relate the act of pulling the cords causally with the general effect of movement that ensues. He will henceforth use this causal schema in order to activate anything whatever at a distance. He will pull the cord in order to continue the action of a seesaw he sees two meters away from his crib and in order to prolong a whistling sound he hears at the other end of his room, etc. This kind of magic causality or "magico-phenomenistic" causality demonstrates primitive causal egocentricity. By

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contrast, in the course of the second year the child recognizes the causal relationships among objects; he can then objectify and spatialize causes.

The objectification of temporal series parallels the development of causality. In short, in all areas we find this kind of Copernican revolution enabling sensorimotor intelligence to extricate the nascent mind from its radical unconscious egocentricity and to place it in a "universe," however practical and however "unreflective" this universe may be.

The evolution of affectivity during the first two years corresponds fairly closely to the evolution of motor and cognitive functions. There is a constant parallel between the affective and intellectual life throughout childhood and adolescence. This statement will seem surprising only if one attempts to dichotomize the life of the mind into emotions and thoughts. But nothing could be more false or superficial. In reality, the element to which we must constantly turn in the analysis of mental life is "behavior" itself, conceived, as we have tried to point out briefly in our introduction, as a re-establishment or strengthening of equilibrium. All behavior presupposes instruments and a technique: movements and intelligence. But all behavior also implies motives and final values (goals): the sentiments. Thus affectivity and intelligence are indissociable and constitute the two complementary aspects of all human behavior.

This being so, it is clear that during the initial stage of reflex techniques there are corresponding elementary instinctive strivings linked with nutrition as well as the kind of affective reflexes that constitute the primary emotions. Recently the relationship between the emotions and the physiological system of attitudes and postures has been shown. The first fears, for example, can be related to losses of equilibrium or to sudden contrasts between a fortuitous event and a preceding attitude.<sup>4</sup>

At the second stage (percepts and habits), as well as at the beginnings of sensorimotor intelligence, there is a corresponding series of elementary emotions or affective percepts linked to

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the modalities of activity itself: the agreeable or the disagreeable, pleasure and pain, etc., as well as the first realizations of success and failure. To the extent that these affective states depend on action per se and not as yet on awareness of relationships with other people, this level of affectivity attests to a kind of general egocentricity and gives the impression, if one mistakenly attributes a sense of self to the baby, of a kind of love of self and of one's own activity. It is true that the infant begins by being mainly interested in his own body, in its movements, and in the results of his actions. Psychoanalysis has called this elementary stage of affectivity "narcissism," but it is important to understand that it is a narcissism without Narcissus, i.e., without any sense of personal awareness as such.

With the development of intelligence, however, and with the ensuing elaboration of an external universe and especially with the construction of the schema of the "object," a third level of affectivity appears. It is epitomized, in the language of psychoanalysis, by the "object choice," i.e., by the objectivation of the emotions and by their projection onto activities other than those of the self alone. Let us note, first of all, that with the progress of intelligent behavior the emotions linked to activity become differentiated and multiplied: joy and sadness linked to success and failure of intentional acts, effort linked to interest, or fatigue to disinterest, etc. These affective states, like those associated with perception, stay linked for a long time to the isolated actions of the subject without precise delimitation between what is specific to him and what is attributable to the external world, i.e., to other sources of possible activity and causality. By contrast, when "objects" become detached more and more distinctly from the global and undifferentiated configuration of primitive actions and percepts and become objects conceived as external to the self and independent of it, the situation becomes completely transformed. On the one hand, in close correlation with the construction of the object, awareness of "self" begins to be affirmed by means of the internal pole of reality, as opposed to the external or objective pole. On the

other hand, objects are conceived by analogy with this self as active, alive, and conscious. This is particularly so with those exceptionally unpredictable and interesting objects—people. The elementary feelings of joy and sadness, of success and failure, etc., are now experienced as a function of this objectification of things and of people, from which interpersonal feelings will develop. The affective "object choice" which psychoanalysis contrasts with narcissism is thus correlated with the intellectual construction of the object, just as narcissism is correlated with lack of differentiation between the external world and the self. This "object choice" is first of all vested in the person of the mother, then (both negatively and positively) of the father and other relatives. This is the beginning of the sympathies and antipathies that will develop to such an extent in the course of the ensuing period.

## 2. EARLY CHILDHOOD FROM TWO TO SEVEN YEARS

With the appearance of language, behavior is profoundly modified both affectively and intellectually. In addition to all the real or material actions the child learns to master during this period, as he did during the preceding period, he now becomes able, thanks to language, to reconstitute his past actions in the form of recapitulation and to anticipate his future actions through verbal representation. This has three consequences essential to mental development: (1) the possibility of verbal exchange with other persons, which heralds the onset of the socialization of action; (2) the internalization of words, i.e., the appearance of thought itself, supported by internal language and a system of signs; (3) last and most important, the internalization of action as such which from now on, rather than being purely perceptual and motor as it has been heretofore, can represent itself intuitively by means of pictures and "mental experiments." From the affective point of view a parallel series of transformations follows: development of interpersonal feel-

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