Genesis of the Concept

Concept formation is a highly specialized mode of mental activity for meeting the needs of the organism more adequately at a higher level. A child has a very few specialised modes of activity for meeting his needs at the outset. In the early stages, however, he has strong and natural impulses which inevitably drain out into action. In the process of his activity, the child comes into relations with many things. Some of these satisfy his impulses. He seeks to come again into relations of the same sort with these things. With repeated experiences, his image of anything that meets his needs is sharpened and defined. Certain characteristics stand out as marks of identification. Thus he comes to realise his mother's face and distinguish it as an important item which stands out from the vaguer background of his consciousness of things. This is one of the things that has come to have meaning for him. On the basis of its appearance, he anticipates certain agreeable experiences. When he reacts on the basis of his anticipations, he finds that he is not disappointed. His anticipations are realised. Reactions which were first purely instinctive
or impulsive in character have yielded results in
consciousness, which are associated with this one face. The face thus has become a symbol for the suggesting of
certain meanings, and the suggesting of these meanings
is the basis, in turn, for certain reactions rather than
others. We say, the child has begun to have a concept
of his mother.

In the genesis of the concept what is evident
is a phase of the process of more delicately adjusting
action to the satisfaction of our needs or impulses. On
the basis of suggestion and anticipation of certain
meanings of experiences associated with the object in the
past. Concepts normally arise in the process of
activity, and they function to more delicately adjust
that activity to the meeting of the needs. A meaning
or a core of meanings gets attached to a single thing or
to every individual in a whole group. On the basis of
some characteristic of the thing, either present or in
the image form, the meaning secures to consciousness and
action is accordingly determined. Our discussion of the
genesis of the concept thus emphasizes two aspects:
(1) that of suggesting meaning and (2) of controlling
reaction - or making adjustment.
(1) Concept in Terms of Meaning

Concept and Meaning: A natural tendency or law of mental action is that experiences resulting from the reactions to the same thing should become closely associated with one another and with the object itself. The same is true in the case of different individual objects; provided that we get from them all the same kind of experiences. So thoroughly are the characteristics of the object and the experiences, which it has yielded in the past, organized into one system that it is possible for any one element which appears before consciousness to reinstate the others; that is, it becomes the symbol which suggests a body of meanings. An image which thus condenses experiences, or which is the symbol for the carrying of meanings, performs the function of a concept if it attaches these meanings uniformly to a single thing or to every one of the individual of a class. The image itself may be either concrete or abstract, provided it operates as a symbol to suggest something beyond itself.

When the meaning is thought of as characteristic of a single individual, we call the notion as an individual concept. When a meaning or core of meanings, is thought of as an equally applicable to every individual
of a group, as in the case of child's notion of a ball, the image which carries the meaning is performing the function of a general concept.

The concept is thus an image functioning in such a way as to suggest a definite meaning or core of meanings, which the mind attaches equally to all the individuals of a group or species.

"Individual" here does not mean only a person nor necessarily a concrete thing, but that there may be individual events and individual qualities and individual truths.

**Image and Concept:** The image is essential to the concept, but it is not itself the concept. The concept is general, the image is always particular. There has been much futile discussion as to whether there is any such thing as a general image. There are of course abstract images. The function of an image may be general, however, and that is the case with the image aspect of the concept. Image and meaning are two indissoluble aspects of the concept. Image alone is not a concept; the image must work, it must do something; and that which it must do is to suggest meanings and apply them to the individual of a group. The same image might function in some other way and constitute a memory experience and not
a concept at all, that is, it might function so as to build up in the mind a particular event of the past with enough of its concrete setting to identify it as real, as belonging somewhere in the stream of past consciousness. Or it might function as reproductive imagination, reinstating some fact or event free from its setting in the past. Whether we have a concept or not is to be determined, then, on the basis not of the kind of image that we have in our mind but by what that image does, by what it symbolizes. The image in concept functions to suggest meanings.

The image which functions in the concept may be either concrete or abstract, but it is pretty likely to have some degree of abstractness. Abstract images are better suited than concrete images to do the work of the concept. They carry with them the less of the irrelevant detail and are more likely to suggest the essential common characteristics of things belonging to the same group. The same law of economy of consciousness which implies the formation of concepts would at the same time operate to give greater abstractness to the image aspect of the concept.

Meaning & Thinking: The concept, as the instrument for easy manipulation of meanings, is a very
important factor in the thinking process. In thinking, we are concerned with mentally working something out, or experimenting in terms of imagination, before we go through the actual motor process. For purpose of making connections in thought, right anticipations of the outcomes of reactions, i.e. right meanings, are just as adequate as the actual concrete results themselves. In fact, they are a great deal better, for we are spared the trouble of going through all the irrelevant motor processes or of experimenting in terms of action in ways, which, if not successful, defeat for ever the achievement of our end.

(2) The Concept as a Tool of Adjustment

Concept and Reaction: Specializations of consciousness arise in the process of adjustment as devices for the more specialised control of reaction. The concept is no exception to this rule. A child through his repeated experiences comes to know or have the meaning that round objects roll. As a result of reaction processes, the single meaning of round objects has come to be uniformly attached to the whole group of round objects. However, if the rolling of these objects had been a matter of indifference to the child, it would not have mattered to him whether these objects roll or not.
But because he seeks to manipulate and control things, he comes to know about their capacity to roll. Having attached this meaning of rolling uniformly to round things, it becomes a mental tool for guiding and directing his reactions to the whole class of round objects. Thus, the control of motor reaction is, indeed, the first and most primary function of the concept.

The concept represents a definite meaning, or core of meanings, which has in the first place been built up in the process of action. But this core of meaning, when once built up, functions to set free a single definite mode of reaction for a whole lot of individual things or the individual situations of the same type.

The concept simplifies our lives of action by enabling us to deal with things in groups. On the mental side, it has practically the same function as habit on the motor side, namely, the task of reducing to method and system our modes of dealing with things. Because the concept simplifies our mental life, through organization and classification of our world of meanings, it also simplifies our world of action. And conversely; because we find ourselves successful in meeting our needs by certain more or less uniform modes of reaction
towards all the individuals in a certain group, our concept becomes more and more fixed in its limitation to a certain core of meaning.

**Concept and Mental Construction**

Besides immediate control over reaction the concept also serves the function of mental construction. In thinking, the question is not always one of motor control, but of control over images and ideas necessary for the proper transitions of thought. The concept stands for and suggests the method in accordance with which we can construct the requisite image out of the elements of past experiences. We do not, then, have to remember all the past experiences in order to find out that which is relevant to meet the needs of our present problem of thought. The significant and vital aspects of these individual experiences have been condensed at certain centres and ultimately knit together and organised under a single image which is now uniformly their symbol. Let us take the example of the concept of a triangle or a square. The image aspect of the concept 'triangle' is only a carrier or symbol of definition or rule of construction. It means the way or method, rather than the individual thing. So also is the case with all the concepts of descriptive or explanatory science, used in the organization and classification of knowledge.
Variations are a matter of individual details.

**Taleological Nature of the Concept as a Mode of Mental Construction**

At first, the two views of the concept, viz. one of symbolizing and setting free a method of motor control, the other as symbolising a method of mental construction, would not seem to be harmonious with each other and functionally identical. But just as truly as the first is taleological, the second too is so. The first is immediately and directly practical, the second mediately so.

The difference in the concept of 'horse' in the mind of the coachman and in that of the scientist is due to a difference in the type of control which each seeks. The coachman is dealing with the immediately practical problem of getting work done; the scientist with the problem of organizing, systematising and controlling knowledge or thought. For the scientist the concept 'horse' as a mode of mental construction meets his need; for the coachman it is symbolic of a certain kind of work done i.e. 'controlling activity' meets his need. In both cases the concept is a tool of the mind in the control of experiences, - in the one, it is the control of thought, or knowledge experiences; in the other, it is the control of motor experiences.
Still ultimately there exists an intimate relations between the theoretical and practical aspects of science.

**Definitions of the Concept**

In view of the preceding discussions of the concept as symbolizing modes of reaction and as symbolizing modes of mental construction, two new ways of defining the concept suggest themselves.

(1) In terms of reaction: The concept is an image functioning in such a way as to suggest, direct or control a single method of reaction which applies equally to every one of the individuals of a group or species.

(2) In terms of mental construction: The concept is an image functioning in such a way as to symbolize the law or principle or method in accordance with which one would mentally construct everyone of the individuals of a whole group or species.

**Growth of the Concept**

**Nature of the Child's First Concepts**

As meaning depends on past experiences, and as this is limited in case of the child, meanings for things must begin as vague and only gradually grow more definite
and precise with the growth of the child's experiences. If meanings are undefined and vague, then certainly concepts are in like manner defective (retardation in schizophrenia).

The next question sometimes asked is whether the child's first notions are general or individual. To answer this we should know what use the child makes of his concepts. This use can be understood only by the study of his reactions, i.e. those reactions which are evidently not mechanical, but due to some conscious process. If the child's reaction to some individual object is special, it is evident that to this extent his notion is individual. If his reaction to a whole group of objects is the same for all the individuals in the group, to that extent his concept is general. But either the generality or individuality of the child's mode of reaction may be due to the indefiniteness or vagueness of his notions rather than to any positive body of meaning.

One more question raised pertains to their genetic order of precedence. The traditional view is that individual notions precede general notions. Observations of children from the point of view indicated, however, seem to show that they do have vague general notions very early, if not from the very beginning
of conscious experience. It is an inherent and original characteristic of the mind when confronted with a situation demanding reaction to adapt the reaction to the individual character of the situation. It is equally just as fundamental and original a tendency of the mind to apply a mode of reaction once effected or a meaning once attained to a new situation or a new object which has not yet been discriminated as different; i.e. tendency to generalize is fundamental to mind. Which comes first in actual experience - the individualizing or generalizing tendency - is a function of the situation which presents itself. In any case the first notions are so vague and formless that from the adult point of view there is little significance in applying to them either the term individual or general.

Development of Concepts

We are more concerned with the differentiation, growth and development of concepts out of the dim background of a vague and undifferentiated conscious experience. Concepts of some sort originate inevitably as a matter of economy of consciousness as it functions in the reactions of the child towards things. They attain their development and sharper definition in the same process of activity as that in which meanings grow. Presupposing a vague background of conscious experience, how do
individual and general notions emerge differentiated from each other sufficiently to have positive rather than negative character?

In the first place the child may react to all men in much the same way. He has a general notion man. But when he learns that he can anticipate from only one man a certain set of agreeable experiences, he discriminate this man from others; he individualizes this man as his papa. But his general notion of paternity has not developed. Now in the process of his experience, when he sees other children get the same sort of agreeable experiences and quite likely certain characteristic disagreeable experiences in their relation to other men, he applies his notion of papa to these men also. They are the papas of other children. But he discriminates that they are not his papa. That idea is applicable to only one individual. Thus he has more sharply defined his individual as well as his general notion. Thus by continual reconstruction within the limits of his experience, by a sort of analytic-synthetic process which goes on unreflectively, the child develops together his individual and general notions.

**Acquisition of New Concepts**

The same general principle of differentiation
from a vaguer background applies in case of acquisition of new concepts as it happens in the case of development of individual and general notions. Take an instance of a child forming a new concept of sheep. He has already had experience with the dog. The process of apperceiving the new works in terms of both analysis and synthesis.

The analysis of both dog and sheep results in noting points of identify, - the animal looks like a dog; as both have four legs, same size, hairy body etc. This is an act of synthesis.

But further phase of analysis is involved in the fact that differences must have been noticed which make this process of assimilation not so easy after all and not wholly satisfactory. There are differences in hair, its cry etc. The child virtually acquires a new concept. In complete and inaccurate though it may be, it is now the concept 'sheep' and he needs only the name to fix it as a new concept, though, of course, it is subject to further development in the process of experience. In such a process of concept formation, the child has also made concept 'dog' more definite and precise. Now the concept dog would no longer include sheep. Certain characteristics of the dog, like the nature of his hair, cry etc. have ceased to have vague significance.
The child himself would most likely be wholly uncon­scious of these processes of concept formation. It would be unreflective.

**Change and Fixity of Concepts**

Concepts is not a fixed and unchangeable thing. A child's concepts are subject to growth and development. The same is true with those of the adult, though there is a strong tendency towards fixity of concepts with the growth of experience. As meanings are an outgrowth of experience, we can see why concepts should be subject to change with the growth of experience and we can also see why with the repetition of experiences of the same sort in a world or realm of limited experience concepts should ultimately become quite fixed in character.

**Psychological and Logical Concepts**

Psychological concepts may be defined as one which has arisen unreflectively in the give-and-take of experience, and in which the elements of meaning have, consequently, not been brought fully and explicitly to consciousness.

The mental life of the child and also of adults is just full of these unreflective working notions, whether class concepts or general laws and principles, or notions which have never been loosened from their setting, but which
Logical concepts are the result of reflective reconstruction of vaguer concepts. The scientist goes over his experiences with nut trees and also supplements them with further specific and careful observations. On the basis of this more reflective study he constructs his concept of nut trees. This concept would be so definite and carefully limited in the mind of the scientist that he would be able to define it.

A logical concept may be defined as one which has arisen as the result of reflective reconstruction, and one in which the elements of meaning have, consequently, been brought fully and explicitly to consciousness and have been formulated in the mind.

The logical concept, once constructed, becomes a tool of the mind used freely and flexibly and without hesitation, until per chance doubt is thrown upon it again by reason of some failure to meet our needs in the control of action or of thought, when it is again subject to investigation and reconstruction. Thus, a logical concept at any given time or point in our experience is not necessarily final.
Significance and Function of the Concept in the Thinking Process

The concept is the most important element of technique in thinking. It is the great simplifier of mental processes. Just as habit reduces the multiplicity of muscular movements to a few simple methods of reaction that can be used for a variety of like situations, so also is the case with concepts. A concept is a sort of mental habit. It is of great significance for the process of thinking. Concepts furnish certain organized centres for the control of the thinking process. The concept is, as it were, the pivot on which the whole thinking process turns.

The pivotal character of the concept may be worked out in two directions.

(a) The concept is central between individual which is problematic and individual brought under control.

This can be clarified by an analogy of a machine, say the reaper. In harvesting grain the problem is always one of controlling some particular situation of reaping some particular field. There is in human experience no such thing as harvesting in general. Yet, it is just as truly a part of the harvesting function to perfect the reaper as to use it. We perfect the reaper, however, not for its own sake; it is not the ultimate goal. It is only an instrument for the more adequate control of the
individual harvesting situation. But this machine, when it is perfected, has this great significance, that its method of operation is general and hence this same machine can be used to control other individual harvesting situations, to reap other fields of grain or the same field another year. The movement is from individual harvesting situations which are problematic to machine and from the machine to the control of individual harvesting situations. Now, just as the reaper arises out of the need of individual situations and, when perfected, functions in the more adequate control of those individual situations, so it is with the concept.

The analogy holds true in another point also. The machine is not fixed - but subject to modification at such points where inadequacy may be discovered in actual use. So it is with the concept. The concept, then, is to be viewed as a tool of thinking, and its central position in the thinking process is due to the fact that thinking, like industry, is either moving in the direction of perfecting its tools or in that of making use of them.

(b) Another way of expressing the idea that the concept is pivotal in the thinking process is as under:

The concept represents a certain core of meaning, and that core of meaning, if thought of from different
points of view, may be analysed into the various elements which are bound together in the complex. Take an example of 'orange'. If the child is hungry, one meaning in the concept stands out prominently - it is something which can satisfy hunger. If he is in playful mood, another element of meaning relevant to that situation stands out - it is something to play with like a ball. In the process of experience many meanings get firmly associated together into one system or concept. Within this system, any one meaning may quickly and more or less automatically suggest others along the line of relevancy to our problem. When, in thinking, a concept is brought before the mind, thought moves rapidly through the complex of meanings bound together in the concept, until it comes to the one that is relevant to, or suggestive of, the proper reaction or the proper connection of thought. The vital work is all done at one little corner - the concept. The gain in efficiency is analogous to that of mounting guns on a revolving turret of the navy which would swing easily and rapidly about and be fired in any direction without having to turn the whole vessel around.

The increased efficiency of the logical concept

The logical concept is superior to the psychologic -al as a tool of thought on account of the fact that the
meanings have been made explicit through reflection and are thus more available for rapid and accurate transition of thought.

In time of emergency it is not only well to have the appropriate tool to use, but also to know exactly where it is and to be able to lay hands on it at once. A carpenter may have all the tools necessary to do a certain piece of work, but it makes a vast difference to his efficiency whether his hammer is in the barn, his chisel in the attic, his plane under the tool shade etc., and he has to hunt them up when he wants them, or each is in the proper place in a compact tool chest or cabinet. In one's stock of psychological concepts, he may actually have the meanings that are necessary to carry through successfully a line of thought which shall solve his problem; but those meanings are much more available for use and tremendously increase efficiency if they are all closely knit together in a logical concept and if he is conscious of the exact place and significance of each one of them.

Logical concepts resulting from a vital thinking process and representing an actual organization of meanings for one's self cannot fail to increase the efficiency through flexibility, freedom and reach of one's thinking power in any field in which they are relevant. It becomes, then, a very important matter educationally both that
children acquire logical concepts and that they acquire them in such a way that they become dynamic elements in thinking rather than empty or vague symbols merely.

This is in general what concepts are, how they grow, and what their significance is in the normal thinking process. However, all thinking is not necessarily normal and all growth or concepts is not always adequate. Sometimes it is stunted or distorted or disordered. Schizophrenic thinking belongs to this type. The next chapter examines this main problem.

Much has been penned until now by way of introduction to the general nature of concept formation and schizophrenic thought disorder. Before we take up for discussion of the main problem, it would be in the fitness of things to acquaint the reader with some of the important studies already made in this regard, which have much contributed to the undertaking of the present investigation. The next chapter is accordingly devoted to the past studies.