

**Chapter 1 : The child's conception of physical causality | Open Library**

*The Child's Reality; Causality and the Child; The Child's Idea of Law; Assimilation and Imitation; Child Logic; Logic and Reality. We propose [in this section] [ 1 ] to enquire into the relations existing between the mind of the child and the external world. This should lead us into the very heart of the Problem of Knowledge.*

Logic and Reality We propose [in this section] [ 1 ] to enquire into the relations existing between the mind of the child and the external world. This should lead us into the very heart of the Problem of Knowledge. But we intend to approach the matter from an angle, and to formulate the problem so as to keep within the bounds of Psychology and not encroach upon the domain of Epistemology. If we examine the intellectual development of the individual or of the whole of humanity, we shall find that the human spirit goes through a certain number of stages, each different from the other, but such that during each, the mind believes itself to be apprehending an external reality that is independent of the thinking subject. The content of this reality varies according to the stages: But the ontological function, so to speak, remains identical: This being so, two points of view are possible in the study of intellectual evolution. The first of these is to choose a system of reference and agree to call " external reality ", reality such as it is conceived to be during one of the stages of mental evolution. Thus it would be agreed upon to regard as the external world reality as it is postulated by contemporary science, or contemporary common-sense. From this point of view, the relations of child thought to the external world would, in fact, be its relations to the universe of our existing scientific thought taken as the norm. In each explanation given by a child it would be possible to determine the part played by the activity of the subject and the part played by the pressure of objects, the latter being, by definition, objects as we now conceive them to be. And this would be Psychology, for the statements which this method led to would not claim to have any decisive bearing upon the Critical Problem in general. Or else, the attempt to regard any system of reference as absolute can be abandoned. Contemporary common- sense or even contemporary science may be regarded as stages among other stages, and the question as to the true nature of external reality left open. And this would be Theory of Knowledge: For our part, we shall confine ourselves to psychology, to the search, that is, for the relations between child thought and reality as the scientific thought of our time conceives it. And this point of view, narrow and question- begging though it appear, will enable us to formulate very clearly several outstanding problems. What are the laws which this collaboration will obey? All these are the traditional problems of the Theory of Knowledge, which we shall be able to transpose into the particular sphere which we have just defined. More exactly, the problems we are about to study are biological problems. Reality, such as our science imagines and postulates, is what the biologists call Environment. The problem of the relation between thought and things, once it has been narrowed down in this way, becomes the problem of the relation of an organism to its environment. Is the organism entirely moulded by its environment in so far as intelligence is concerned? If so, then we have, in terms of cognition, what may be called the empirical solution of the problem. Or does the organism assimilate the actions to its environment in accordance with a structure that is independent of these actions and that resists the pressure of all modifications coming from outside? If so, then we have in terms of cognition what may be called the a priori solution. Or is it not rather the case that there is interaction between the two organism assimilating the environment to itself, but the environment reacting upon the structure of the organism? Such is the solution which, in the domain of cognition, would imply a capacity for transformation in the categories of thought and an increasingly delicate adaptation of thought to things or of things to thought. These, then, are the terms in which we set the problem. And if, in describing the results we have obtained in child psychology, we occasionally use words like empiricism, apriorism, etc. But, be it said in passing, it might perhaps be possible to make use in the Theory of Knowledge of the results acquired by our restricted method. Let us suppose, for the sake of brevity, that intellectual growth takes place along a straight line, in a linear series such that the stages A, B, C, .. N follow one another without either interferences or changes from one level to another. We shall take the external world corresponding to stage G as absolute, and compare to it the external world corresponding to stages C, D, E, .. Such a comparison is without any epistemological bearing, since there is

nothing to prove that G is decisive. But if, now, we take into account this very possibility of variation and regard the series C, D, E, G as capable of being extended, on the one hand, backwards, by the supposition of stages A and B, and, on the other hand, forwards, thanks to the future stages H, I, K, N, we shall discover the following: To put things more concretely, it may very well be that the psychological laws arrived at by means of our restricted method can be extended into epistemological laws arrived at by the analysis of the history of the sciences: We are in no way suggesting, it need hardly be said, that our psychological results will admit straight away of being generalised into epistemological laws. All we expect is that with the co-operation of methods more powerful than our own historical, sociological methods, etc. But if we can content ourselves with conjecture, then it is best to try and extricate the laws according to which the idea of reality develops between the ages of 3 and n, and to extrapolate the guiding lines thus obtained so as to reconstruct the earliest stages. Moreover, as soon as we put this method into practice, we find that we can learn enough from the laws of evolution between 3 and n years, and that there is no need to attach any special importance to the original stage. Three complementary processes seem to be at work in directing the evolution of reality as it is conceived by the child between the ages of 3 and n. Child thought moves simultaneously: By objectivity we mean the mental attitude of persons who are able to distinguish what comes from themselves and what forms part of external reality as it can be observed by everybody. Let us examine these processes more closely. Objective knowledge can only be conceived in relation to subjective, and a mind that was ignorant of itself would inevitably tend to put into things its own pre-notions and prejudices, whether in the domain of reasoning, of immediate judgment, or even of perception. An objective intelligence in no way escapes from this law, but, being conscious of its own " I ", it will be on its guard, it will be able to hold back and criticise, in short it will be able to say what, roughly, is fact and what is interpretation. So that in stating that the child proceeds from realism to objectivity, all we are saying is that originally the child puts the whole content of consciousness on the same plane and draws no distinction between the " I " and the external world. Above all we mean that the constitution of the idea of reality presupposes a progressive splitting-up of this protoplasmic consciousness into two complementary universes the objective universe and the subjective. We have met with many examples of this realism of the first kind and of its progressive reduction. The feeling of subjectivity and inwardness felt by the adult is, to a great extent, connected with the conviction of being the owner of a thought that is distinct from the things thought about, distinct from the physical world in general, and more internal and intimate than the body itself. During the earliest stages, the child believes that he thinks with his mouth, that thought consists in articulating words, and that these words themselves form part of the external things. The voice, being thus identified with thought itself, is regarded as a breath which participates with the surrounding air, and some children go so far as to say that it is identical with the wind in the trees, and that dreams are made of " wind ". They are quite incapable of distinguishing between thought and the things thought about. To use the expression chosen by M. EC- Delacroix, the sign " adheres " to the thing signified. Later on, the child gives up this realism and localises thought inside his mouth, then in a little voice placed in the head ; he then gives up materialising thought and makes of it something sui generis which characterises the self as spirit C. The evolution of ideas about names is particularly suggestive from this same point of view. Word and name are about all that the child knows of thought, since he identifies thought with the voice. Now, names are, to begin with, situated in objects. They form part of things in the same way as do colour or form. In some cases, this realism actually turns to magic: Later on, names are situated in the adjoining air where the voice has uttered them, then in the voice, and finally in thought itself. Dreams give rise to an equally definite realism. At first, they are thought to be pictures of air or light which come before our eyes from outside. At the earliest stage, the child thinks, naturally enough, that anyone could see the dream come into the room and go out again. Later on, the dream is believed to have an internal origin, but is conceived as coming out of the head or the stomach before appearing before the child. Finally, the child learns to distinguish between " being " and " seeming ", and localises the dream, first in the eyes, then in the head. All these facts show that the localisation of the objects of thought is not inborn. It is through a progressive differentiation that the internal world comes into being and is contrasted with the external. Neither of these two terms is given at the start. The initial realism is not due simply to ignorance of the internal world, it is due to confusion and absence of

objectivity. Consequently, during the gradual and slow differentiation of the initial protoplasmic reality into objective and subjective reality, it is clear that each of the two terms in process of differentiation will evolve in accordance with its own structure. In the case of every object there will be a displacement of values which will modify the character of the object. Take, for example, the notion of "air", or of "wind". During the earliest stages, air is conceived as participating with thought: When thought proper is localised in the self, and the participations between air and thought are broken, the nature of air changes by virtue of this fact alone. Air becomes independent of men, sufficient to itself, and living its own life. But owing to the fact that it is held to participate with the self, it retains at the very moment when it is severing these bonds, a certain number of purely human aspects: Only very gradually will it be reduced to a mere thing. This phenomenon is very general. During the early stages the world and the self are one; neither term is distinguished from the other. But when they become distinct, these two terms begin by remaining very close to each other: At each step in the process of dissociation these two terms evolve in the sense of the greatest divergence, but they are never in the child nor in the adult for that matter entirely separate. From our present point of view, therefore, there is never complete objectivity: We have distinguished at least five varieties of adherences defined in this way. There are, to begin with, during a very early stage, feelings of participation accompanied sometimes by magical beliefs ; the sun and moon follow us, and if we walk, it is enough to make them move along ; things around us notice us and obey us, like the wind, the clouds, the night, etc. In short, the world is filled with tendencies and intentions which are in participation with our own. This is what we have called dynamic participation, in contrast to substantial participation, to which, however, it may lead. A second form of adherence, closely allied to the preceding, is that constituted by animism, which makes the child endow things with consciousness and life. A third form is artificialism see C. The reader should be reminded at this point that artificialism in the child is not a theory which after reflection systematically takes man as the point of departure for everything. The terms must be reversed, and that is why artificialism has the same right to be classed among the adherences as animism. The child begins by thinking of things in terms of his own " I ": If we ask the child, or if the child asks himself how things began, he has recourse to man to explain them. Thus artificialism is based on feelings of participation which constitute a very special and very important class of adherences in the sense that we have defined. A fourth form is finalism:

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*the child's conception of physical causality was investigated. three methods of investigation were used. the first method*

*was purely verbal, and consisted of a series of questions directed to children, regarding some natural phenomenon.*

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