are multiplied the observable ratios will uniformly approximate to the true ratio. This sort of induction, therefore, has no other validity than as belongs to a hypothesis which suits the facts as far as we yet know them. If B is to be called an induction, it is a degenerate induction differing every little from hypothesis. It may properly be said, then, that even a pure mathematical theory is developed out of hypothesis. The origin of the positive sciences can be supposed to satisfy every feature of the facts. Although we know that the law of gravitation is one of the most perfect of theories, yet still, if bodies were to attract one another inversely as a power of the distance whose exponent were not 2, but 2 - n, the only observable effect would be a very slow rotation of the line of apsides of such planets. Now the times of apsides all do rotate in consequence of perturbations, which virtually do alter slightly the same attention, and such an effect would probably only produce slight discrepancies in the values obtained for the masses of the planets. In very many cases, especially in practical problems, we deliberately go upon theories which we know are not exactly true, but which have the advantage of a simplicity which enables us to deposite their consequences. This is the case of almost every theory used by engineers of all kinds. The most extraordinary departure from the known facts occurs when dynamism is applied, where the theory is in striking opposition to facts which oblivious themselves upon every spectacle of moving water. Nevertheless, even in this case, the theory is not useless. In all the explanatory sciences theories for more simple than the real facts are of the utmost service for enabling us to analyse the phenomena, and it may truly be said that physics could not proceed even with its most respectable facts without such analytic procedure. Thus, the kinetical theory of gases, when first unfolded, was obliged to assume that all the molecules were elastic spheres, which nobody could be true. If this is necessary even in physics, it is much more indispensable in every other science, and, in the moral sciences, such as political economy. Here the same method would begin by considering persons placed in situations in such a sense of the utmost contrast to those of all human society, and animated by motives and by reasonings power enough to all kinds of real men. Nevertheless, in this way alone can a base be obtained from which to proceed to the consideration of the effects of different complications. Owing to the necessity of making theories far more simple than the real facts, we are obliged to substitute abstractions for them, and to be also upon our guard against any extreme reflections that may be based upon such extreme consequences. Whereby makes a great point of the relative importance of the distinction between theory and fact. This is an important point that ought not to be overlooked. Every fact involves an element supplied by the mind, which if not, properly speaking, theory, is analogous to it. On the other hand, obvious errors of logic will result from not taking account of the difference between the intellectual elements already involved in the perception of facts and scientific theories. A theory is a result subject to criticism, meaning by criticism, not the consideration of whether or how far an object is beautiful, useful, or the like, but the putting of a judgment as to whether the object ought to be as it is or as it is supposed to be made to it. If this judgment is adverse, the theory can and will be altered; and it will not be maintained by anybody until it is put into a shape to withstand its criticism. It is perfectly safe, in this sense of the word, for anybody to criticize what cannot be understood; and if the opposite and unanswerable criticism, it is also highly peremptory. Now all the sublimities work the intellect in framing a percept and a perception, and just as the judgment is beyond our control, and therefore not subject to logical criticisms. It simply has to be accepted. Kant, perhaps, did not sufficiently appreciate this all important fact that he undertook to study the critical of such matters as forms of space, time, unity, reality, &c.; but after all, his doctrine of the categories is merely in outcome that knowledge cannot be perceived. In other words, that they are ineradicable. Perceptual judgments are, for the purposes of logical criticism, obsolete facts without any admittance of theory. If a theory does not square with perceptual facts it must be changed. But the impressions of sense which it supposes have been constructed are matters of theory. If the perceptions squared with the square with the impressions of sense, it would not at all be the perceptions that would have to be reformed, for they cannot norative; and it is the contrary, that the perceptions are constructs out of impressions of sense, that would have to be modified. (C.S.P., p.132.)


Toecosopuy [Gr, theos, divine wis.

dominate; Thaodopy: Fr. theosophie; Ital. theosofia. (a) A stage into which one that has been the object of a reflexion passes when its primary data are lost and an organ through which he is re-

Theos against that philosophy. (b) A single act of recognition, e.g. a house. Com-

posed thing: one to be comprehended only on a view of its several parts, or properties, separately considered, e.g. a house. Intellec-

itiveness: things not material, e.g. an obligation, a copyright. Directive things: things

divisible without destroying their essential character or value. A house or horse cannot be thus divided; a pair of hares or block of houses might be (see Falkner, Jurisprudence, chap. viii). Things in action, or things in action: a thing not in the possession of the person with reference to its relation to whom it is considered. Not being in possession, he, if the owner, may be forced to bring an action in order to get it. Things fungible: those which can be replaced by others of the same kind without loss to the owner, e.g. a barrel of flour of a certain brand. See BER. (a.m.)

Thinking (in educational method). In general, the exercise of the intellect, specifica-

lly in grasping the signification of facts presented in instruction. Nearly all stages of school methods give the pupil's mind some kind of critical thinking, but the phase of thinking deemed important enough to be designated as a stage of instruction in method is the formation of generalizations. Durkheim classifies the mental movements for the process of logical thinking, but the thinking of the student should be considered and not be simply labelled as "logical." Thinking (in educational method). In general, the exercise of the intellect, specifica-

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