

the moment of awaking from a sound sleep. Neither observer was asleep and, therefore, the experience may not be called an hallucination. Apparently no dream state similar in kind to that which occurred upon awaking had preceded the illusion. An explanation which naturally, under the circumstances, can not claim to be proof positive, may be suggested. *K.* and *S.*, not *W.*, as a result of their evening in the boat went to bed with a pronounced motor adaptation due to the rocking of the boat. During the night, the motion of the wind was transmitted to the platform of the tent by the two fir trees (right and left) which were in contact with the tent platform. This motion was greatest nearest the trees, that is to say, on the right and left sides of the tent where *S.*'s and *K.*'s beds stood. The motion of the platform was sufficient to awaken both *K.* and *S.* but not *W.* The gentle swaying of the platform with the moving trees in the foreground and the water shimmering through them was sufficient stimulus to light up the *perseverationstendenz* of the motor *einstellung* which *K.* and *S.* had taken to bed with them. The vivid revival of the motor adaptation with the added suggestion from the sight of the water and the moving trees was sufficient to produce the illusion which was experienced. The marked *perseverationstendenz* of this particular form of motor adaptation is very well known and renders the explanation suggested highly probable. (Written 2:00 P.M., August 3, 1912.)

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REVIEWS AND ABSTRACTS OF LITERATURE

The Science of Logic. P. COFFEY. Two Volumes. London: Longmans, Green, and Company. 1912. Pp. xx + 445 and vii + 359.

These two volumes of Professor Coffey present an appearance sufficiently formidable and abstruse to satisfy the most pedantic of academic minds. But as the author states, "the aim and scope of this treatise are more modest than perhaps its dimensions might suggest. It attempts, in the first place, to present in a simple way the Principles of the Traditional Logic expounded by Aristotle and his scholastic interpreters; secondly, to show how the philosophical teachings of Aristotle and the Schoolmen contain the true basis for modern methods of scientific investigation, inductive no less than deductive; and finally, to extend, rather than supplement, the traditional body of logical doctrine by applying the latter to some logical problems raised in more recent times. But the treatment is confined mainly to principles, and is meant to be suggestive rather than exhaustive" (Preface).

As this passage indicates, the book is more or less unique in its content

and aim. One of its purposes is to serve as a text-book, and it is for this reason, presumably, that formal logic is presented in patient and unsparring detail. The exposition, however, is interrupted from time to time with material of the most recondite character, in order to indicate and criticize the deviations of various philosophies, especially sensationalism and objective idealism, from the scholastic trail. "Logic has philosophy for its background. The study of logic raises many large questions, leading into various branches of philosophy" (Preface). Some of these leadings are followed to a considerable distance, notably in the discussion of the pre-suppositions of induction. Hence the book combines to some extent the features of a text-book in logic, an exposition of a philosophical standpoint, and a defense of Scholasticism.

The first division of the work, entitled "Introduction," consists of three chapters, discussing respectively the nature of man and the standpoint of "moderate realism," the scope of logic and the relation of logic to kindred sciences. The position adopted is dualistic, and the moderate realism advocated by the author is defined by differentiation from the realism which asserts that universals exist *as* universals outside the mind, and nominalism, which denies universals even as concepts (pp. 8-11). Difficulties arising from this mode of approach are passed on to metaphysics. Nevertheless the author discusses from time to time the relation of his standpoint to that of other writers, with reference to matters which depend directly on metaphysical considerations, such as the relation of concepts to reality, the distinction between analytic and synthetic judgments, and the doctrine of a First Cause. The comparison thus becomes a comparison of results or conclusions, without due consideration of the questions in which these divergent conclusions have their origin, a procedure which gives the author an advantage in that his standpoint appeals more directly to common sense, as also a certain facility in dealing with problems which must look for their final justification to some other source than logic. While it is held, for example, that scientific procedure leads us to the notion of a First Cause, the meaning of this metaphysical notion is not discussed. Similarly the view taken of induction rests on the distinction between *necessary* and *contingent* judgments, but the nature of this (equally metaphysical) distinction is left very much in the dark. Necessary judgments, *i. e.*, judgments "formulating relations which *can not be conceived otherwise than they are*" (p. 178) are not derived from the constitution of the mind exclusively, "but from the nature or constitution of the mind, *together with the nature or constitution of Being itself*" (p. 179). Contingent judgments, on the other hand, are such as can not be derived "from an examination of the terms themselves, from an analysis of the *comprehension* of the notions compared, and without appealing to any independent source of information" (p. 171).

Beyond statements of this kind the nature of necessity is left wholly undefined. And if we ask how the same being or reality can be the basis for contingent and for necessary judgments, the answer must be that "this ultimate question also belongs to metaphysics. The answer given by Scholastics will explain why they call the latter class of judgments

metaphysical and the former class *physical*. Physics studies being as revealed to the senses, *i. e.*, as subject to *change*, and as existing in the concrete conditions of time and space: physical judgments, therefore, are *in materia contingenti*. But the human mind has the power of abstracting from those changing conditions of concrete existence in time and space, and of considering the essences and attributes of things in a purely ideal or possible condition—non-temporal, non-spatial, non-changeable, and absolutely static. It does so in metaphysics; and, manifestly, Being when considered in that static condition, can and does give rise to those *necessary* judgments, which Scholastics accordingly call *metaphysical*" (p. 180).

Apart from excursions of this sort, and in spite of a protest in the preface against the "arid formalisms that pass for logic," the author devotes the first of the two volumes to the discussion of formal logic. He not only gives to the subject an exceptional fulness of presentation, discussing all sorts of *minutiae* that have accumulated in this congenial environment, but he permits his views on logic to take their coloring largely from this particular field. His definitions of concept, judgment, and inference are taken from formal logic and apparently are to be taken at face value. Concept, judgment, and inference are held apart as distinct mental processes, and the substantial results of modern logic in this field are passed over with little appreciative recognition.

The second volume contains two parts, one dealing with method, the other with "The Attainment of Science and Certitude." Induction aims, like deduction, at necessary truth; but its process is the reverse of deduction. It proves some one of the conceivable antecedents to be the real antecedent, and it does this by the indirect method of disproving the other alternatives (II., 55). Induction founds itself on the axiom of sufficient reason. "No doubt the logic of induction can not be understood without a *statement* of the principles which underlie the process. But a treatise on logic is hardly the proper place for their full exposition and *vindication*; nor is it our intention to go into them here at great length" (II., 56). It is presumably on this ground that the purposes of logic concerning causation are held to be satisfied when the statement is made that a cause is "anything which contributes in any positive way to the existence or happening of something else" (II., 62).

Since logic presupposes a metaphysics to which it may appeal for the justification of its fundamental principles, truth is sufficiently defined if we say that it is the conformity of the mind judging about reality with the reality to which the judgment refers. When the mind adheres firmly to a judgment which it knows to be true, it is said to have certitude. The objective evidence necessary to guarantee certitude is "simply the objective relation between two aspects of the same reality, between subject and predicate, shining in clearly upon the mind, and grasped by the mind in forming the judgment, in interpreting the reality through this mental act. It is, therefore, simply the *manifestation of reality to the mind*" (II., 212). When the objective evidence "is not grasped or comprehended subjectively with sufficient clearness to guarantee a certain assent," we have

opinion or probability. In this whole discussion there is scarcely a hint of the controversy concerning truth which has been in the limelight so many years.

This is not the place to discuss the relation that should obtain between logic and the other philosophical disciplines. It appears from Professor Coffey's treatment, however, that a more unfortunate status could hardly be assigned to logic than that which he bestows upon it. The moment we advance beyond the discussion of mechanical formulæ and common sense distinctions, which can scarcely be dignified with the name of science, we trench upon territory which is labeled, "No Trespassing." All the fundamental considerations of logic are determined elsewhere, and the logician, as logician, is not permitted to discuss them at all. It is to be expected, therefore, that Professor Coffey's exposition should rarely go beneath the surface of the subject, or that he should fail to throw light on important questions in logical theory. Loose definitions, questionable assumptions and unconvincing elaborations are the natural, if not inevitable result of such limitations. In view of these limitations, the book has many merits. It is interesting as an exposition of a point of view, and its contents are presented in a clear and simple style. The writer disclaims all consciousness of "having said or intended anything new or original. But neither has he intended to make a mere compilation. It has been his ambition to assimilate and analyze what he has learned from others; and, bearing in mind the requirements of beginners, to set forth the results of his own labors in the manner and order he considers most helpful to those for whom he has written."

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Immanuel Kant. OSWALD KÜLPE. Third edition. Leipzig: B. G. Teubner. 1912. Pp. viii + 153.

Since the "return to Kant" there has not been an uncritical acceptance of his teaching, even in his sometimes too admiring fatherland. Few books upon him, however, have been written by men so well fitted as is Professor Külpe to bring to the discussion a scientific viewpoint, and few works have so happily combined clear exposition and criticism with popular yet accurate expression.

Books about Kant are not so much interesting because they state what Kant thought as because they tell us how men of the present age regard him. Professor Külpe has allowed his point of view to appear throughout the entire work, which traces the development of Kant's thought, states the critical problem, reviews the contents of the three critiques, and ends with an appreciation of the man and his place; but we are given the clearest insight into his position in the chapters "*Raum und Zeit*" and "*Die Apriorität als Subjektivität und der Phänomenalismus.*" These, he tells us, he has again rewritten for this, the third, edition.

Külpe attacks the Kantian proofs of the *a priori* and intuitive character of space and time, and considers these to be inferences of thought,