concern the physiologist, the psychologist, the physicist, the mathematician, the philosopher, and the logician alike, and they can be gradually carried to their definitive solution only by the consideration of the widely disparate points of view which are here offered."¹

In this essay too we have a great variety of topics each briefly treated but all bearing on metageometry, *e. g.*, Riemann's Physical Conception of Geometry, the Measure of Curvature and the Curvature of Space, Sacchieri's Theory of Parallel, Researches of Gauss and of Stolz, the contributions of Lobachevski and Bolyai, and so on. In short, "by the comparison of space with other manifolds, more general concepts have been reached, of which the geometric represents a special case. Geometric thought has thus been freed from conventional limitations, heretofore imagined insuperable.

"By the demonstration of the existence of manifolds allied to, but different from space, entirely new questions have been suggested."²

Thus the purpose of the author is to show and to trace the empirical origin of the highest abstractions in geometrical reasoning, and thereby to add this further argument in support of the extreme empiricism and anti-conceptualism of his general philosophical views.

We certainly have to thank the Open Court Publishing Company for adding this little book to the other works of Professor Mach that they have published in English.

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NATURE AND VALIDITY OF KNOWLEDGE.

Ueber die Erfahrungsgrundlagen unseres Wissens. A. MEINONG.
(Abhandlungen zur Didaktik und Philosophie der Naturwissenschaft, 6.) Berlin, 1906. Pp. iii + 113.

A review that would do full justice to this monograph would make as many pages of print as the original. It is a most concise and keen analysis of perception as an act of knowing and of its evidential value. Unfortunately the book has the fault of most of Meinong's writings, namely, a needlessly difficult style, especially unfortunate in the present instance where the writing is intended for readers outside the innermost philosophical circle. This fault is to some extent redeemed by a careful three-page summary at the end of the book.

The book is divided into four sections:

I. These coexists with our empirical knowledge a knowledge independent of experience and, in this sense, *a priori*. This independence, however, does not belong to the presentation (*Vorstellung*) but

¹ *Ibid.*

² P. 143.

to the judgment (*e. g.*, red is different from green). *A priori* knowledge is based upon the nature of its subject-matter; its truth is evident; and its validity is necessary quite apart from the question whether or not its object exists.

Experiential knowledge in the proper sense, or immediate experience, is synonymous with apprehension (*Wahrnehmung*). All instances of apprehension (no matter how this fact may be obscured by language) are existential judgments with positive 'objectives' (so the author names the objective thing whose existence is asserted). Their objects are real, are things, never mere qualities. That is, we never apprehend merely the quality green but *something* green (not grün, but ein Grünes); and the fact that *green* is not green whereas a *green thing* is green distinguishes between a quality and a thing. Again, all apprehension is *present* apprehension and has, as an essential characteristic evidential value (*Evidenz*). This latter though immediately given lacks complete certainty (*Notwendigkeit*).

II. The chief problem of the monograph is: When may perceptions (*Aspekte*, that is, *Scheinwahrnehmungen*) be regarded as true acts of apprehension (*wirkliche Wahrnehmungen*)? At first we are led to say that the whole field of external perception cannot be so regarded, for primary qualities are no less subjective than are the secondary. This introduces us to the chief discussion of the book, in which are examined first inner or self-perception, usually thought to base its judgments on complete evidence, and secondly outer perception, often thought to lack all evidence.

III. This section gives an admirable analysis of the evidential value of inner perception. Of course it is an error to ascribe to inner perception complete certainty; still such a thing as inner apprehension is to be found. The most favorable conditions for this are offered by objects existing only in the presentation itself; or, as the author puts it, "what really exists here are inwardly directed contents," that is, contents interpreted as belonging to the self.

Now apprehension must be *present* apprehension but this condition cannot be fulfilled by self-perception, for the best the mind can do is to have the apprehension and its content meet at a present point or in a present line (in einem *Gegenwärtigkeitspunkte*, resp. einer *Gegenwärtigkeitslinie*). In short the normal relation between the two is immediate succession. Hence, the evidential value of inner perception has degrees, just as has memory, — degrees varying with the nearness by which it approaches the present as a limit (*Gegenwärtigkeitsgrenze*); that is, the nearer perception and content perceived

come to be coexistent, the more certain the judgment. Thus even inner perception is conjectural and has corresponding degrees of evidential value.

IV. This gives the author some hope for the evidential value of external perception (!) We are not obliged to deny it every characteristic of genuine apprehension (!) Here is another book in which problems of epistemology are muddled by the issue between realism and idealism and (alas) also by the question of the primary and secondary qualities. Here is the fourth section of a keen piece of analysis rendered utterly fallacious because the author transposes the logically prior and posterior. To make the problem of the evidential value of outer perception and the definition of the term 'exist' logically dependent upon the issue between realism and subjective idealism, instead of making the latter dependent upon the former, can only lead to such misunderstandings as the following:

"Man hört zwar oft genug, dass es die 'Phänomene' der Wärme, des Lichtes, etc., sind, die die Physik zu erforschen habe; und noch in seiner jüngsten Publikation legt E. Mach in bezug auf 'das Land des Transzendenten' das 'offene Bekenntniss' ab, 'dass dessen Bewohner' seine 'Wissbegierde gar nicht reizen.' Die Zuverlässigkeit innerer Wahrnehmung und die bewährte Beobachtungsgabe des hochverdienten Physikers in gebührenden Ehren: aber ich kann unmöglich glauben, dass er seine Erlebnisse im gegenwärtigen Falle wirklich richtig beschrieben hat. Und so zweifle ich nicht daran dass gerade dieses 'Land des Transzendenten' es ist, dem auch seine so erfolgreichen Bemühungen galten und gelten. Phänomene als solche sind unentbehrliche Erkenntnismittel, sie sind aber niemals Ziele unseres Strebens nach Erkenntnis des Wirklichen."¹

Thus we are here treated again with a discussion whether or not, and how far, *noumena* are knowable, and all this to determine the evidential value of outer perception. The problem of the primary and secondary qualities remains, in the author's mind, the same muddle that Locke left it. If we cannot solve these problems to the satisfaction of all of us, it does seem too bad that we cannot at least agree which of two problems logically precedes the other; and if we cannot come to an agreement regarding the solution of one problem, it seems too bad that we are therefore unable to understand one another when we take up the next.

At any rate we are told that we have in outer perception good conjectural evidence for the existence of things, but poor evidence for

¹ P. 106.

their properties. However, we have good reason to believe that thing differs from thing when its phenomena differ, and we can do something in the way of counting external entities.

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The Nature of Truth. HAROLD H. JOACHIM. Oxford, 1906.

This work is a criticism of three conceptions as to the nature of truth. No one of these conceptions nor any combination of them is regarded as adequate and final, so that the outcome of the criticism is mainly negative. Although this result is held by Joachim to have a positive value in making clear where the problem lies, it seems to the reviewer that his main contribution to the subject lies in the various criticisms he takes up apart from the rather unsatisfactory negative result. These criticisms we consider to be of the very greatest value.

The first conception with which he deals is that of truth as 'correspondence,' *i. e.*, we have truth when an idea or a judgment of the mind is in one-one correspondence with a reality or a fact other than itself. This is the old copy-theory or representative theory of truth. According to Joachim there seem to be three difficulties with this conception. First, in a one-one correspondence between an idea and a reality, though it may be easy to see the relation between one part of the idea and the corresponding part in the reality, it is difficult to understand the relation between the whole of the idea and the whole of the reality, because the whole is teleological in nature and not a mere sum of its parts. Secondly, if the idea is exactly like the reality, then it becomes identical with it and we have no longer any correspondence. Thirdly, a judgment of the mind cannot be absolutely separated from its corresponding reality, for a judgment is after all something real, and reality cannot be conceived except as in some way given to a mind. Complete separation of reality and mind would mean no relation between them and hence no truth.

The second conception makes truth a 'quality of independent entities.' Truth is independent of the mind, 'experiencing makes no difference to the facts.' Every fact is in and for itself, it may or may not become related to the mind so that the mind may apprehend it. If this conception is accepted, a disagreeable alternative must be faced, The truth which never is apprehended by the mind is unknowable; and such truth as reaches the mind becomes the mind's individual possession, leaving it no means of getting beyond a sort of subjectivism.

The third conception is that of 'systematic coherence.' Just as a