A CRITICAL STUDY OF STEPHEN PEPPER'S APPROACH TO METAPHYSICS

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A CRITICAL STUDY OF STEPHEN PEPPER'S

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INTRODUCTION

This essay is an attempt to get well acquainted with Stephen Pepper's conception of the nature and methods of metaphysics. It is written in a dissertational style because the object here is to establish an arguable view of metaphysics through giving a careful analysis and criticism of Mr. Pepper's position.

Professor Pepper's metaphysics is unusual. He begins formulating it by describing what he believes the "general cognitive situation" to be. This involves introducing the idea of "common-sense fact," a concept which is basic to his position. Delineation of this material into its "traits" sets the tone for much of his later work. Common-sense facts are the uncritical "stuff" of everyday experience. This is the subject-matter for metaphysical investigation. Common-sense facts are secure in that they are never lacking; this trait puts a limit on skepticism. These "facts" are cognitively disorganized and lack criticism; they urge the serious knower to complete their refinement yet they prevent, if they are heeded, the pitfall of dogmatism. Contained in this uncritical material are numerous bases for guiding insights, or "root metaphors" which enable us to develop various schemes through which the world of common-sense facts may be interpreted.

Professor Pepper's system culminates in his discussion of "world hypotheses" which are metaphysical theories generated from root

metaphors. These theories attempt to include the entire world within their explanative reach. The unique aspect of this result is Pepper's belief that there are four relatively equal world theories. This is in sharp contrast with the outlook of many metaphysicians who advocate that only one metaphysical theory is adequate. Because of this position Pepper endorses a form of eclecticism which incorporates submitting individual problems to each of the relatively equal world theories, noting their individual solutions, then proceeding as rationally as possible while treating each solution proferred as being as well grounded as the others.

Since much of Pepper's academic life (he was born in 1891) spans a period of strong anti-metaphysical inclination among some professional philosophers, one easily notes in his work many attempts to justify metaphysics as an intellectually respectable enterprise. His position is perhaps somewhat distorted in places because of this defense.

This essay is not intended as a discussion of every point raised by Mr. Pepper's views on metaphysics. Accomplishing that kind of task would take more time and erudition than this humble amateur has to command. In one sense, Professor Pepper's metaphysical position has not yet reached its complete fruition since his latest work in this area is still in preparation.[1]

The goal for this paper is threefold. It is hoped that the summaries of Pepper's views will amount to a correlation of his

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[1] Concept and Quality, to be published by Open Court as the thirteenth volume in the Paul Carus Lecture Series (expected sometime in 1967), is Pepper's latest book containing additional work in metaphysics. The only parts of that material available for this essay was a summary of parts of it which appeared in The Monist, XLVII (1963), pp. 267-286.

opinions on metaphysics which are somewhat scattered through various publications. Second, several criticisms of points of special interest will be offered along the way. Finally, in the course of criticism and in the conclusion, several reflections upon metaphysics and Pepper's position will be presented.

CHAPTER I

COMMON SENSE

Professor Pepper considers the appropriate method for seeking knowledge to be corroboration "which is nothing more than the method of gathering and organizing evidence."[1] This method involves first accepting the importance of hypotheses, all of which originate among uncriticized and alterable facts. The term "facts" is not essential here; one may use any other term one pleases if he remembers that he is not thereby denoting unalterable entities. It is possible that our preceptions feelings, and immediacies are exactly what we perceive, feel, and intuit them to be. But to assume certainty in these matters would be dogmatic (see below, p. 19). If one desires to be undogmatic, one must be prepared to change his mind about the reliability of any evidence whatever. Hypotheses are not guaranteed by uncriticized facts; these two cooperate to substantiate each other.[2] The central point here is that knowledge does not begin with certainties. It begins with something which is alterable and open to critical

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[1]Stephen C. Pepper, "Metaphysical Method," The Philosophical Review LII (1943), p. 256 [subsequent references to this article will be cited as "MM"]. Also on this point cf. Stephen C. Pepper, "The Root Metaphor Metaphor Theory of Metaphysics" [hereinafter referred to as "RTM"], The Journal of Philosophy, XXXII (1935), pp. 365-366. On p. 367 Pepper refers to his method as the method of hypothesis.

[2]The foregoing is adapted from RTM, p. 367.

interpretation.

Thus, Pepper is led to distinguish two broad types of evidence: uncriticized and criticized (or refined) evidence.[3] Knowledge begins with the former and passes into the latter. He often refers to uncriticized evidence as "common sense."[4] No term is completely satisfactory because what one wishes to denote is something precritical. In several instances Professor Pepper has attempted to describe what he wishes "uncriticized evidence" to denote.[5] In order to get a clear idea of his intent for this concept, it will be worthwhile to quote at length some of his examples.

> Uncriticized, common-sense facts are the sort of things we think of when we ordinarily read the daily papers or novels depicting the ordinary life of men or the sort of things we see and hear and smell and feel as we walk along the street or in the country: that is, the sound of a bird; it is three thousand miles across the continent; trains run every day on schedule, except in case of accident; there is space and there is time; the laws of nature have to quite a degree been discovered by scientists and the world runs according to them and scientists can predict by means of them; astronomers can predict eclipses with perfect accuracy; dreams are not true; three is a lucky number; it is perhaps wiser not to go under a ladder, because paint or something might fall on one; God exists quite certainly, or at least, probably; science says that I am made up of chemicals; my soul may be immortal; I

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[3] Stephen C. Pepper, World Hypotheses (Los Angeles, 1942), p. 39 [subsequent references to this book will be abbreviated "WH"].

[4] v. Stephen C. Pepper, "The Quest for Ignorance or the Reasonable Limits of Skepticism" [subsequently referred to as "QI"], The Philosophical Review, XLV (1936), p. 130. Pepper uses "middle-sized facts" as a synonym for "uncriticized evidence." He asserts that his "common sense" is Plato's "opinion," or the pragmatist's "experience," or Loewenberg's "pre-analytical data." For the latter see Jacob Loewenberg, Reason and the Nature of Things (The Paul Carus Lectures for 1953 [LaSalle, 1959]), p. 130.

[5] cf. WH, p. 39; QI, pp. 130-131; RTM, pp. 367-368; MM, p. 254. The table of "Evidential Items" given in the latter includes many kinds of uncriticized evidence.

> can make free choices; pleasures are good and pains are bad; do to others as you would be done by; turn the other cheek; an eye for an eye and a tooth for a tooth; men are born equal; the best man wins; bigamists are immoral, unless they are Turks; Turks are funny people and probably immoral--and so on. Something like this is the material of present-day common sense in America.[6]

> The minimum of acceptable fact and knowledge is not. . .the mock humility of a cardinal who lays aside for a brief ceremony his robes of cloth and gold and washes with his own hands the already well washed feet of a beggar. It is the genuine humbleness of the great rabble of beggars themselves who live and do not know why they live, nor how long they will live, nor what they will live upon. But they live. I refer to the cups and spoons on these tables, the lumps of sugar, the chairs, the pieces of perspective, the cough, the sneeze, the warmth, the sound, and, if there is sense, the sense of these words, the sense of Stanford University, and this room, in this building, on this campus, in these United States, in the world, your breathing your smiles, and the feelings behind your smiles--all these things for you and for me and for thousands and millions. These are the ragged facts or ragged bits of knowledge a freshman cannot escape from--nor you nor I with all our superior learning.[7]

Pepper ascribes three traits to material of this sort, the first being that common-sense facts are not known with definiteness and generally not knowable definitely.[8] Any attempt to describe or specify common sense in detail carries us out of that material into criticized evidence. Any item fitting into the heading of common-sense fact is evidence, but not evidence having an indubitable nature. It is a fact of a sort which generally cannot be described with definiteness. Common sense facts are not definitively known and probably cannot, by

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[6] WH, pp. 39-40.

[7] QI, pp. 129-130.

[8] WH, pp. 40-42. cf. Stephen C. Pepper "Middle-Sized Facts," University of California Publications in Philosophy, XIV (1932), pp. 13-14 [this article will be referred to as "MSF"].

their nature, be so known. Indeed, that trait alone distinguishes common-sense fact from critical fact. Ignoring that difference would amount to ignoring some available evidence.[9]

Security is a second trait of common-sense facts.[10] This means that although no one knows exactly what these facts are we can't get away from them. They are the matrix of all knowing. We are so immersed in them that we normally miss their significance. The specialist does not often notice them because he has made assumptions that raise him above them. Critical cognitions of them may come and go, but they will still insist on being known, equally for the beggar as for the wise man. Common-sense material is not stable, in that what may be part of it in one epoch or culture may not persist; or new items may be absorbed into its realm. Its security lies in that it is never lacking. "No cognition can sink lower than common sense, for when we completely give up trying to know anything, then is precisely when we know things in the common-sense way. In that lies the security of common sense."[11]

The third trait of common sense is what Pepper calls its cognitive irritability.[12] As a man seeking complete knowledge, the more

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[9]From QI, p. 131, one finds this further comment: ". . .[That the distinction between fact and description does not appear in discussing common-sense facts] is very annoying to the specialist. With some justification he objects to my even using the word 'fact' to refer to these things. Let him use any word he wants. He will find every precise word a misnomer, because precision is just what these things do not have. Precision comes from analysis and criticism, and, precisely, middle-sized facts are pre-analytical and uncritical."

[10]WH, pp. 42-43; QI, pp. 130-131. cf. MSF, pp. 16-17.

[11]WH, p. 43.

[12]WH, pp. 43-44. cf. MSF, pp. 14-15.

one is aware of common sense the less he likes it, for the materials of common sense are irresponsible. The serious student feels responsible to truth and principle, but common sense accepts then ignores the law of contradiction; it mutually asserts a fact and its contrary; it capriciously possesses both clarity and vagueness. This unreliability and irresponsibility is the source of its irritation to one who is pursuing critical knowledge. Because of its lack of definitiveness and its doubtability, Pepper prefers to call a common-sense fact (or an item of uncriticized evidence) a dubitandum.

Besides not being capable of accurate characterization (trait one), dubitanda exhibit "degrees of vagueness, or what is the same thing, degrees of accuracy of discrimination."[13] Pepper articulates this point by claiming that the same middle-sized fact is capable of a number of descriptions of various degrees of vagueness. Each descrip- is made possible by a corresponding hypothesis. As an hypothesis is used to describe more and more dubitanda, the accuracy of the descriptions will increase. A description which is better than others will "go deeper into a fact" (presumably this metaphor refers to lack of vagueness) and connect that fact with a number of other facts. "There is thus a hierarchy of middle-sized facts--from the vaguest, most inarticulate, most isolated to the clearest, most articulate, most interconnected."[14] This notion seems to be close in meaning to the concepts of "rough data" and "rough danda" which are developed in World Hypotheses (see below p. 42). Pepper also thinks that within

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[13] MSF, p. 14.

[14] MSF, p. 14.

the same level of vagueness or discrimination, a middle-sized fact is capable of a number of alternative descriptions depending upon which one of a number of available hypotheses is used.[15]

There are some difficulties concealed in Pepper's notion of common-sense facts having traits. For one thing, it is paradoxical that dubitanda are not generally definitively known, yet possess at least three definite traits. Secondly, dubitanda are said to be variable and amorphous,[16] but giving traits to common-sense material seems to involve believing just the opposite. Pepper has not made it completely clear whether he meant the traits to be characteristics which dubitanda have in and of their very nature, but some of his discussions give this impression.[17] So if dubitanda are to be amorphous and unstructured, it would not be consistent to say later that they have traits which are aspects of their nature as dubitanda. If Pepper did not mean for the traits to be aspects of a dubitandum in its own nature, then it is not clear what the significance of the traits is to be. Finally, Pepper gives the impression, throughout his discussion of common-sense facts, that he is describing the situation as it is; furthermore, he believes his description of common sense-facts to be correct. He has pointed out that there are no descriptions in the absence of an hypothesis. What is lacking here, then, is Pepper's hypothesis through which he is describing common-sense material.

Part of the hypothesis which Pepper has not stated would have to

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[15] MSF, p. 16.

[16] MSF, p. 11.

[17] v. MSF, p. 11, p. 13. The word "trait" itself carries the connotation of "definite characteristic."

deal with the means by which one has knowledge of dubitanda. He states that there are elaborate world hypotheses which relate how we come to have refined knowledge. He does not offer a theory about how one comes to have knowledge of dubitanda. Dubitanda deserve the designation "knowledge." This much is explicit in his work.[18] How that title is earned is a mystery. On the important question of the knowledge-situation at the dubitanda level. Pepper offers no comment.

Perhaps Pepper is arguing this way (there is good evidence that he is--see WH, pp. 319-320): the most reliable thing in life is that we have experience; we don't know precisely what the nature of experience is, but it is highly confirmed that we have experience; individual components of experience (dubitanda) are each dubitable, variable, indefinitely known, vague, etc., but the mass of all this prerefined, pre-analytical material is what all knowledge starts from and it (as a mass) is the very secure base of all knowledge. This argument does not remove the difficulties noted above. Pepper declares that we don't know precisely what the nature of experience is, then asserts that it is composed of individual dubitanda having distinguishable and describable traits. He proclaims that the mass of dubitanda is the very secure base of knowledge, but he fails to show how one has knowledge of them either individually or as a whole. This last statement is not meant as a denial that the mass of dubitanda constitutes knowledge; it only inquires how the designation "knowledge" came to be earned.

The concepts associated with common sense have a central function in Professor Pepper's approach to metaphysics. Dubitanda appear as the

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[18] WH, pp. 319-320.

"given" in his approach. They are the basis of all knowledge. Common sense facts offer a source for the categories of world theories; they save philosophy from utter skepticism, they rescue philosophy from dogmatism.[19] Showing how all this works out in Pepper's position is the subject of the next three chapters of this essay.

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[19] MSF, pp. 27-28.

CHAPTER II

DOGMATISM AND SKEPTICISM

Professor Pepper is very interested in determining whether there is any knowledge about which one may be completely certain. If there were propositions which one knew with certainty to be true, that would contravene his belief that all knowledge has its beginning among the dubitanda of common sense. If there are indubitable propositions, knowledge will begin from them; dubitanda would lose their central importance. He attempts to discredit the possibility of certain knowledge in his discussion of dogmatism.

He also wants to show that there is a limit for the lengths to which doubt may reasonably be pushed. If unlimited doubt were possible, he thinks there would be no knowledge. Pepper's treatment of skepticism is designed to show that unrestrained doubt is not a reasonable position, no matter how one interprets it.

Analysis of Belief

Professor Pepper begins his examination of dogmatism with an analysis of the structure of belief.[1] In each instance of belief there are three constituents: a content, an attitude, and the grounds. "Content" refers to what one believes or disbelieves. The content of belief

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[1] WH, p. 11.

in those terms seems to be equivalent to the logician's term "proposition." One's attitude toward the content of a belief is a matter of degree. An attitude may vary from the positive extreme of certainty to the negative extreme of complete disbelief. Mid-way between these two extremes is the center position of suspended judgement or unbelief. The intensity of one's attitude corresponds to how far (in either direction) from unbelief one's position on the scale is located. The grounds for belief consist of whatever evidential items are available in support of the content. These three factors taken together (content attitude, grounds) are what Pepper calls belief in the broad sense. Belief in the narrow sense as contrasted with disbelief and unbelief, is a matter of attitude in response to content. In these terms Pepper describes a reasonable man as

> . . .one whose attitude in respect to content is guided by the grounds of belief. If the grounds weigh heavily for the content, he will believe; if against it, he will disbelieve; if evenly on either side, he will maintain an attitude of suspense and unbelieve. Moreover, he will seek to make his attitude exactly proportional to the balance of weight in the grounds of belief. . . . [Furthermore, he will be] eager to find more grounds for belief if more are available, and to modify his attitude constantly in relation to these.[2]

The dogmatist is one whose attitude toward the content of a belief is not in proportion to the grounds for that belief. He is one who believes, or unbelieves, or disbelieves too much in terms of the grounds for belief. Moreover, "a dogmatist often begins as a reasonman; but having struck an attitude, he resists the search for new grounds, and even when these are presented he refuses to change his

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[2]WH, pp. 12-13.

attitude accordingly."[3] Thus, according to Pepper, a belief in the narrow sense is cognitively justified only when one's attitude toward the content is appropriate to all the available relevant evidence, including the further proviso that one's attitude must remain open to revision in the presence of new grounds.

Criticism of Pepper's Analysis of Belief

Pepper's analysis of belief is lacking in clarity. Belief-in-the-narrow-sense is not adequately differentiated from belief-in-the-broad-sense, while the latter notion has hardly been defined at all. Another problem is the ambiguity surrounding his use of "attitude." It too lacks clear definition. Before talking about some of the logical difficulties, it will be advisable to attempt a clarification of the concepts mentioned above.

Presumably, belief-in-the-narrow-sense means that state of mind in which complete trust, confidence, or reliance is placed in the truth of a proposition. If this be appropriate, then the other elements of belief-in-the-broad-sense can be defined in terms of it. Attitude apparently has reference only to the state of mind or mental feeling in general, no matter what degree or intensity it may exhibit. This state of mind is capable of ranging from complete trust when one is certain something is true (this state called belief, narrow sense), to a lack of a feeling of either trust or distrust (the case of unbelief or suspended judgement), to complete trust in the falsity of a proposition (the state of mind called disbelief). Thus, attitude can be represented

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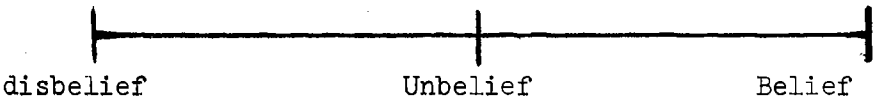
[3] WH, p. 13. cf. RTM, pp. 365-366.

on a scale.



One's attitude or state of mind can be located on this scale depending on the amount of intensity of one's trust or reliance in the truth of the proposition under consideration. The location of one's degree of attitude on this scale is, in the case of a reasonable man, to be determined by the grounds for the truth or falsity of the content. If this enlargement and clarification of Pepper's terminology is in line with his intentions, it would seem that belief-in-the-broad-sense means nothing more than the act or process of judging on the basis of the grounds, what is the appropriate degree of attitude for the particular proposition under consideration.

There are several problems with Pepper's analysis of belief which a mere clarification of terms does not resolve. For example, it is not clear how probabilities are to be handled. In the case of a proposition X whose probability of being true is 75 per cent, one might adopt a state of mind which exhibits a 75 per cent confidence, trust, or reliance in the truth of the content; or one could conceivably adopt a state of mind which exhibits complete trust and confidence in the truth of the content "Proposition X has a 75 per cent chance of being true." The latter interpretation is probably objectionable to Pepper because it involves accepting a certainty which, it will be seen, he thinks cannot be maintained legitimately. The former interpretation, to be workable, needs a criterion for determining one's degree of confidence, trust, and reliance in a content's truth. That is, it requires a criterion by which one determines whether one's intensity of attitude is at the 75

per cent mark. No appropriate criterion is provided by Pepper.

Another question develops about suspended judgement, or "unbelief." Unbelief is a state of mind or attitude wherein there is a lack of trust or confidence (either pro or con) for the truth of the content; or unbelief is the state of mind wherein one exhibits conflicting confidence both for and against the content so that the confidence felt for the truth of the content "balances" the confidence felt for the content's falsity. Unbelief is the appropriate attitude to adopt for cases in which there is either a complete absence of grounds or the grounds are equally balanced pro and con. If one would apply Pepper's rule concerning cases for which unbelief is proper, one would eventually require a standard for judging whether the grounds are equally balanced. One would also need a means for determining whether there is a complete absence of grounds. Pepper has thus far failed to provide a method of discovering whether a particular item proposed as evidence for a content actually is evidence for that content. Also neglected is a standard for "balanced grounds."

One other difficulty is Pepper's omission of a criterion which would establish that one's degree of confidence in a content is in consonance with what one thinks the grounds to be. The central theme of Pepper's description of dogmatism is that it is cognitively illegitimate to adopt a state of mind which exhibits an excessively intense confidence in the truth of the content, the grounds being too weak to support that level of intensity. How can we avoid being dogmatic (a state of mind wherein one's confidence in the content is too great in view of the grounds) if we have no technique for assuring ourselves that our degree of trust is appropriate to the grounds of which we are

aware?

Unacceptable Grounds For Belief

Infallibility and Certainty. If a man is called a dogmatist he is judged so because he puts too much confidence in a content in reference to the grounds. This is Pepper's formulation of dogmatism in the abstract. As seen in the previous section, there are some difficulties in applying the abstract formulation of dogmatism. Pepper attempts to circumvent some of these shortcomings by pointing out some specific types of grounds in which men have often placed too much confidence. The thrust of his argument at this point shifts from an attempt to understand the nature of dogmatism in general. The point he wants to make now is that if anyone claims that material of a specific type is grounds for a belief, then he is a dogmatist. Being a dogmatist of course means that in some manner one's belief is not adequately supported by evidence. Let us review this point once more because it is an important one. There are particular types of material (for the sake of brevity let us call this class of material D) such that if one only uses items from D as the grounds for a belief, one is a dogmatist because no D-item can be evidence for any belief. What follows summarizes Pepper's opinion about the nature of the class D.

The first of several dogmatic standards which Pepper rejects is infallible authority.[4] His argument against using infallible authority as a legitimate ground for belief is based on this evidence: (1) authorities which claim to be infallible often contradict each other or

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[4] WH, p. 19.

contradict themselves; (2) the competence of an infallible authority is often questioned in terms of other cognitive criteria (e.g. scientific method); (3) whenever infallible authority is questioned, the defender of dogma appeals to other more legitimate criteria. In the event infallible authorities contradict themselves or one another, there is a loss of the claim of infallibility. When infallible authorities are questioned successfully by using other more legitimate cognitive criteria, the particular infallible source either is discredited or it defends itself by appealing to criteria which are more legitimate than infallible authority. Furthermore, whether the claim for an authority's infallibility is discredited by inner contradictions or outside attacks, one single particular case of failure by a well-acknowledged supposedly infallible authority is sufficient to discredit placing one's reliance in any authority claiming infallibility for support of one's position. "Infallibility is put forward as an absolute security against doubt. If a good instance of infallibility has once failed, how can we ever trust a claim to infallibility again?"[5]

Next Pepper considers claims of certainty.[6] He subdivides appeals to certainty according to content: claims for the certainty of self-evident principles, and appeals to the certainty of indubitable fact. Pepper doubts claims for the certainty of self-evident principles for reasons similar to those he gave for doubting the reliability of claims of infallibility. Foremost among these is the observation that there have been cases wherein one supposedly certain self-evident principle

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[5] WH, p. 21.

[6] WH, p. 21.

contradicted another. In addition to those objections, Pepper questions the very idea of some statement being evidence for itself.

> . . .How could anything be evidence for itself? The evidence for a fact is other facts bearing in upon it, causally or otherwise. . . .'self evidence' is a way at once of acquiring the prestige of the criteria of evidence, and of dispensing with the need of applying them.[7]

As before, the knowledge of the collapse of dozens of self-evident principles held as certain in the past is enough to discredit the reliability of such a claim. Even the indispensable "Laws of Thought," often held to be certainly true through self-evidence, are dismissed as a successful application of the criterion of self-evidence. For example, Pepper regards the principle of contradiction as true. His judgement, however, is based on what he regards as empirical and hypothetical grounds, not on any criterion of self-evidence.[8] Finally, a claim for self-evidence collapses the instant it must be argued for. "If self-evidence must find evidence for itself elsewhere, it is no longer self-evidence."[9]

The certainty of indubitable facts has also crumbled often; again due to difficulties similar to those mentioned for infallible authority.[10]

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[7] RTM, p. 366.

[8] Wh, p. 23.

[9] Wh, p. 24.

[10] Wh, p. 25. v. Stephen C. Pepper, "The Issue over the Facts [subsequently abbreviated as "IOF"], University of California Studies in Philosophy, XXV (1950), pp. 121-139. On p. 122 he gives some arguments against indubitables which are somewhat different from those given in WH: ". . .No reliable sign has yet been suggested for telling a pure fact from an impure one." ". . .The doctrine [of indubitables] itself is not indubitable. It has to be argued for like any other hypothesis, which to say the least, is ironical." ". . .Historically quantities of cognitive material have been presented by men of the highest intelligence as indubitable which subsequently have been accounted dubitable."

That there have been a number of instances wherein one supposedly indubitable description is contradicted by another supposedly indubitable description of the same fact is reason enough to suspect any claim that a description of a fact is certainly correct.

> . . .My whole point is that everybody makes mistakes, and therefore nobody's claim of indubitability is utterly reliable. Such claims must always be checked up with corroborative evidence. Consequently, nothing is indubitable, for we mean by indubitable a self-sufficient cognitive criterion.[11]

Despite all the negative criticism directed against dogmatic certainty and infallible authority, Pepper recognizes that some aspects of authority and certainty do have an appropriate place in methodology.[12] The type of appeal to authority usually named "expert opinion" is admissible if a claim for infallibility does not accompany the opinion, and if the opinion is openly obtained through an objective study of the relevant evidence.

> . . .We legitimately credit an authority, not because whatever he utters is true, but because he utters, we trust, only what he believes to be true. . . .Not because he is an ultimate source of knowledge, but because he is not. . . . We believe he is a reliable mediator and transmitter of knowledge the ultimate validity of which likes elsewhere.[13]

The feeling of certainty can be a reliable guide to factuality, but the feeling is not the source of this reliability.[14] Things about which we feel certain often are true because that feeling becomes

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[11] WH, pp. 30-31. In IOF p. 121 one finds this statement which further amplifies his position against indubitables: "What I am maintaining is that material offered as fact in critical cognitive inquiry cannot be accepted as exempt from cognitive criticism [Pepper's italics]."

[12] WH, p. 37.

[13] WH, p. 37.

[14] WH, pp. 37-38.

attached through habit to experiences that are consonant with our mental and physical constitution. Thence, things about which we feel certain are likely to be true if one is well adjusted to his environment. But the feeling of certainty is not an ultimate criterion, and often it leads to error. It is the wiser course to subject judgements about which we feel certain to final justification by the evidence.

Definitional Prescription. Pepper believes that there are three kinds of definitions--equational definitions, ostensive definitions and descriptive definitions. Each of these types are appropriate to different kinds of situations in which meanings are wanted for terms. The descriptive definition is the only type which is "responsible to facts." It's proper use is in empirical inquiry. He doesn't mean to assert that nominal definitions can't be properly used in such inquiry. He does claim that excluding descriptive definitions from that kind of work is a mistake.

> For the facts are that in empirical inquiry observers desire expressions which ascribe meanings to symbols with the definite proviso that these meanings shall be as nearly true to fact as the available evidence makes possible.[15]

His reason for believing this is that he has studied the way men who are actually employed in "empirical inquiry" use definitions in some instances. Those observations have led him to the conclusion that some definitions are intended to have a truth reference, and indeed, they must have a truth reference because of the function they serve. Pepper states that many philosophers believe that no definition has a truth

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[15]Stephen C. Pepper, "The Descriptive Definition" [referred to hereinafter as "DD"], The Journal of Philosophy, XLIII (1946), p. 29. Definitional prescription is discussed only briefly in WH (pp. 32-36) which was first published in 1942. The fullest treatment of this point is in DD.

reference. In his opinion, using nominal definitions (his name for those lacking a truth reference) in cases wherein only descriptive definitions are appropriate constitutes employing methods which block inquiry, prevent criticism, and ignore evidence.

> There is a group of philosophers who have been making a determined effort to divorce a truth reference from all definitions. Their doctrine is that by definition a definition is nominal. Their argument is that this doctrine makes for clarity and ambiguity by drawing a sharp distinction between propositions that are expressions to which truth or falsity may be attributed, and definitions that are expressions which ascribe meanings to symbols and to which truth or falsity may not be ascribed. Simple as this sounds, the doctrine is a falsification of facts regarding certain expressions of the second sort, and in practice turns out to be a weapon to restrain criticism of crucial assumptions nominally defined, and even estops factual investigation and presentation of evidence questioning assumptions nominally defined. The doctrine, consequently, makes not for clarity in empirical inquiry, but for confusion and dogmatism.[16]

What Pepper is claiming here is that the exclusive use of nominal definitions in what he calls "empirical inquiry" constitutes developing unacceptable grounds for belief because nominal definitions are inappropriate for use in many parts of "empirical inquiry." Since the proponent of the exclusive use of nominal definitions uses unacceptable grounds in empirical inquiry, in those instances where only a descriptive definition is appropriate, he is being dogmatic; he is placing too much confidence in his definitional methods. Since Pepper believes that there are just two kinds of nominal definition, equational and ostensive, it is appropriate at this point to consider his description of them.

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[16] DD, p. 29. For a concrete case-study of how Pepper believes this "weapon" is dogmatically employed see Stephen C. Pepper, "A Criticism of a Positivistic Theory of Mind," University of California Publications in Philosophy, XIX (1936), pp. 211-232. Pages 216-227 are particularly appropriate to this point.

The equational definition[17] involves the determination that some symbol (S) may be substituted for a more complex symbol (MN) wherever the latter occurs. The technique is merely one of convenience, saving the need to write out MN in every instance of its use. Equational definitions obviously contain no reference to fact. The symbols MN may be mere marks on paper or, more commonly, they are assumed to have in their own right a meaning which is itself defined in some way either by another equational definition, or by some other definitional technique.

Pepper states that the usual source for giving meaning to the symbols MN in an equational definition is an ostensive definition which is the second of his species of nominal definition.[18] In this method the symbol defined (S) is related to some empirical fact (O) through some sort of "relation of indication" or ostensive operation. With this technique one might define the symbol "chair" by uttering the word "chair", then pointing toward an object. In such a procedure the symbol S gets its meaning through the indicative operation which relates S to the observable object O. Pepper adds that there are many other indicative operations besides pointing. For example, the symbol "pain" could be defined ostensively if one jabbed his companion forcibly with a pin while uttering the symbol being defined. The companion would then have an intimate knowledge of the meaning intended for "pain." Pepper believes that there is no difference between an ostensive definition and what some writers have described as operational definitions. He attaches some importance to ostensive definitions because he thinks

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[17] DD, p. 30.

[18] DD, pp. 30-31

that ultimately all facts of immediacy are indicated by operations of the ostensive type.

A descriptive definition,[19] Pepper states, is a "Gestalt-like" triadic relation in which at the same instant a symbol is given a meaning and the meaning is given a truth reference.[20] It will be helpful to reproduce a diagram (see below, p. 25) Pepper used to describe this relation.[21]

> Here the symbol S such as 'water,' 'gravity,' 'neuron,' 'reaction,' 'aversion,' 'purpose,' 'justice' is tentatively taken to indicate an empirical field O, and at the same time is tentatively equated with a description D which is presented as a true hypothesis of the characters, terms, and relations, or relational structure of the field indicated.[22]

Presumably, by "empirical field" Pepper means a series of observations or observation statements.

The act of establishing a descriptive definition is found in the context of an empirical inquiry.[23] The intention is to attach a symbol unambiguously to a set of observed facts. In order to do that the symbol is referred to the observations through a description which is as precise and true to the facts as it is possible to be. The descriptive definition will be inadequate if the description of the facts referred

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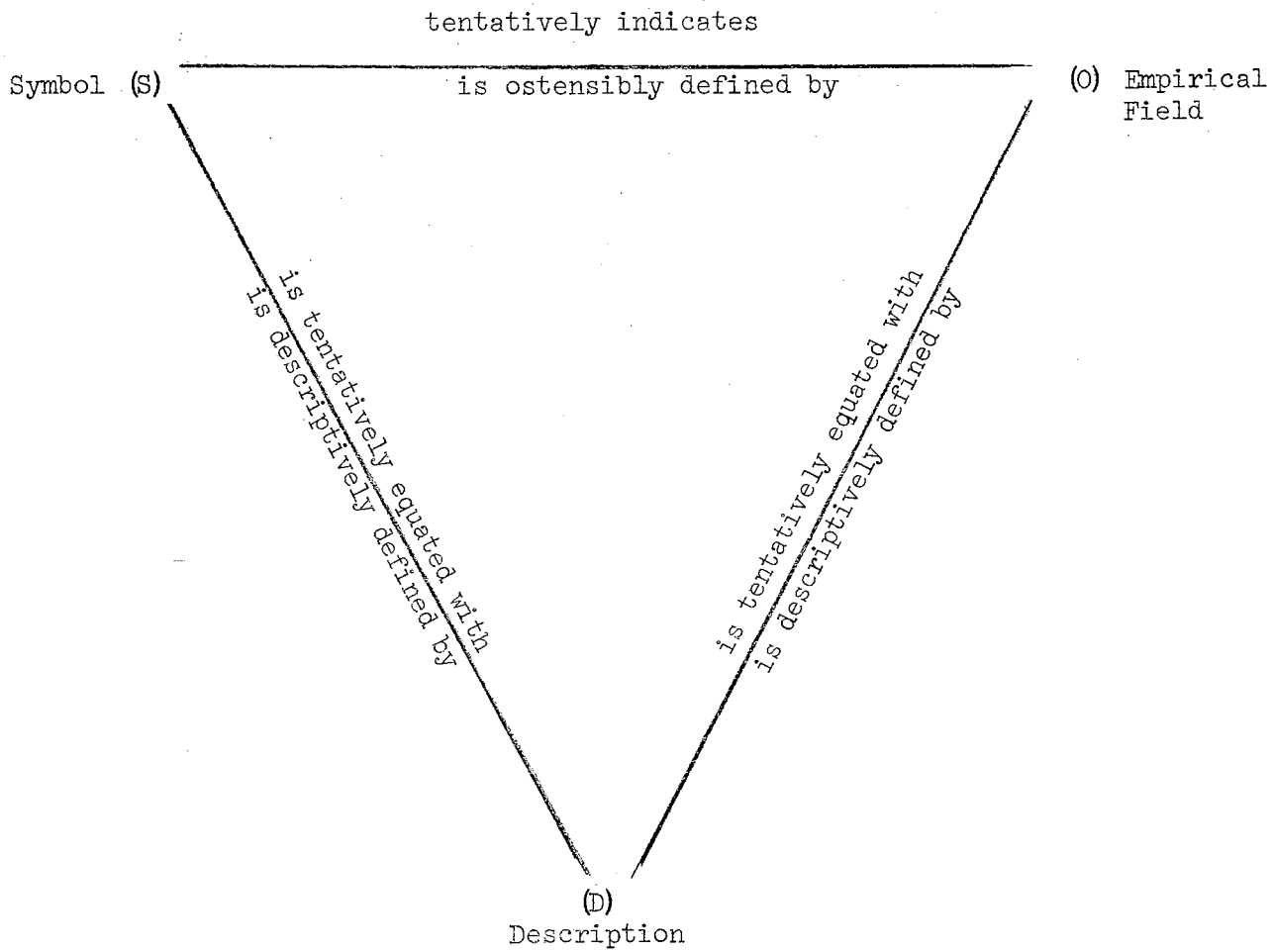
[19] In reply to a possible charge that he is resurrecting the Aristotelian "real" definition in a new disguise, Pepper asserts that his account of the descriptive definition implies no reference to any Aristotelian essences or to any distinction between essential and accidental characteristics. v. DD, p. 34.

[20] DD, p. 29.

[21] DD, p. 31. The words describing "S", "O", and "D" are not in the original diagram.

[22] DD, p. 32.

[23] DD, p. 32.


tentatively indicates
Symbol (S)
is ostensibly defined by
(O) Empirical Field
is tentatively equated with
is descriptively defined by
is tentatively equated with
is descriptively defined by
(D)
Description

to by the symbol should prove vague or false. Should that condition occur, the symbol must be redefined by a more accurate description. It is not allowed in a descriptive definition to equate S with D, if D can be shown to be false. A rigid equation of S to D would be permitted only on the certainty (probably not attainable) that D is completely true to O. The relation of S to D in a descriptive definition, hence, cannot be the relation of S to MN in an equational definition. S is not arbitrarily equated with D in a descriptive definition. It is related to D only in so far as we know D to be a correct description of O.

> . . .I should like it to be noticed that in empirical inquiry men usually do not intend that their terms shall mean simply other terms for convenience of expression. They intend their terms to mean veridical references to facts. When, for instance, a neurologist defines a neuron with certain descriptive terms, does he intend to equate the symbol 'neuron' with the symbols of his description? Quite clearly not. He believes his description is true to fact and <u>that is why</u> he tentatively equates the term 'neuron' with the description. That is what 'neuron' will mean for him during his exposition and until he can find a better definition of it as a closer descriptive approximation to the facts.[24]

One becomes dogmatic, Pepper asserts, whenever nominal definitions are used to block empirical inquiry.

> A nominal definition is by definition prescriptive. . . .If the right hand side of an equational definition is interpretable as an hypothesis with a truth reference to an empirical field, that hypothesis is frozen by the definition. A questioning of the hypothesis can then be plausibly estopped by declaring that a nominal definition is not susceptible to factual criticism.[25]

He lists several consequences of blockage through using equational definitions.[26] (1) Rather than seeking the facts, then adjusting an

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[24] DD, p. 33. Pepper's italics.

[25] DD, p. 35.

[26] DD, p. 35.

hypothesis to fit them, the inquirer might try to adjust the facts to an hypothesis already implicitly accepted in a rigid equational definition. (2) The inquirer may reject without investigation alternative hypotheses about the field of inquiry simply because they do not conform to his equational definition or because their use of terms is not his. (3) One might tend to minimize the differences in alternative descriptions of a common field by asserting that the differences are merely matters of language. (4) The researcher who is using only nominal definitions

> . . .is led to believe that since nominal definitions are arbitrary, and simply motivated by interest in giving a symbol a meaning, therefore the determinations of fields of empirical enquiry are indications only of the enquirer's interests and in no way guided by structural lines in nature. Thus the doctrine of the nominal definition subtly prescribes ontological categories about the nature of facts and man's relations to them.[27]

(5) Whenever an equational definition is questioned by a critic, the defense is to invoke the logical purity of such a method. This shifts the issue from the significant one concerning the facts of the case to an issue about method.

The ostensive species of nominal definitions is equally open to dogmatic abuse.[28] A dogmatist might employ it to attach a final meaning to a term such that the meaning is no longer amendable in the presence of new evidence. Used in that manner, it is prescriptive of empirical fact. Because of this, Pepper believes that the nominal ostensive

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[27]DD, p. 35. In pointing out the arbitrariness of nominal definitions of either type, Pepper appears to allude to the function performed by what many writers call stipulative definitions, which Pepper apparently would claim is only a functional aspect of all nominal definitions.

[28]DD, p. 36.

definition is not particularly appropriate to empirical inquiry in which ostensive references must be tentative and subject to the control of a description with a truth reference to the observational field.

To sum up Pepper's objection to nominal definitions one might say that their employment as a prescription or an injunction to a body of evidence or a field of inquiry is dogmatic and becomes an obstacle to gaining knowledge. "It is nothing to possess a clear definition, if the definition distorts the facts, selects from the relevant facts, shows only one aspect of the facts."[29] Of course, the use of techniques of nominal definition does not brand one as a dogmatist. However, Pepper thinks that their employment as injunctions to empirical inquiry surely does.

Many recent writers on logic agree with Pepper that there are more types of definitions than only the two nominal species he mentioned. One other kind which seems to be similar to his "descriptive definition" is that which contemporary writers usually discuss under the heading "theoretical definitions." Here are some typical excerpts.

> Theoretical definitions do more than simply explain the meaning of a word; they also report on certain matters of theory, drawn either from science or from everyday life. . . . The definition of 'grammar' as 'the science which seeks to codify the rules of language'does more than to tell us what 'grammar' means; it rests upon a theoretical fact or supposition--that fixed rules govern the languages known to man. . . .A theoretical definition is one that rests upon some underlying item of theory whose rejection or disproof would render the definitions senseless or inappropriate. For example, a technical definition of 'Venus' as 'the planet that is carried by the third sphere from the earth' was rendered basically meaningless when the Copernican

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[29]DD, p. 36.

> system of astronomy replaced the Ptolemaic view of the universe.[30]

> . . .a theoretical definition of a term is one which attempts to formulate a theoretically adequate characterization of the objects to which it is applied. To propose a theoretical definition is tantamount to proposing the acceptance of a theory, and, as the name implies, theories are notoriously debatable.[31]

Now this may only be speculation, but when all the details of Pepper's descriptive definition are set aside and the general thrust of that concept is viewed, descriptive definitions and theoretical definitions look to be no different. They both involve characterizing a symbol or word (neither are attempts to directly characterize things) in terms of a theory or presupposition about the nature of things. If the last two sentences are correct, then Pepper is vindicated in objecting to the position that all definitions are either equational or ostensive. He may or may not be correct in saying that descriptive definitions have a truth reference, depending on the status of one other aspect of descriptive and theoretical definitions.

Pepper has stated that there can be no description in the absence of a theory; or, expressed in another manner, being able to describe things presupposes a theory about the nature of things. This implies that a more accurate way of characterizing descriptive definitions (or theoretical definitions) would be to say that they have a theory reference instead of saying they have a truth reference. If theories can be said to be true or false, these definitions will then have a truth reference also; if not, then there is only a theory reference. Note that

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[30]Nicholas Rescher, Introduction to Logic (New York, 1964), pp. 32-33. cf. James D. Carney and Richard K. Scheer, Fundamentals of Logic (New York, 1964), pp. 101-102.

[31]Copi, Irving M., Introduction to Logic (New York, 1961). p. 105.

Pepper's types of nominal definitions have no theory reference. Pepper is vindicated if he is objecting to the view which claims that no type of definition involves a theory reference.

Consequences of the Rejection of Dogmatism

Pepper thinks that his investigation of dogmatism implies that no dogmatic method is legitimate in any search for knowledge. The consequence of rejecting dogmatic methods is "to wipe the slate of cognitive methods amazingly clean."[32] Pepper believes that among the methodological rejects are: deduction of truths from self-evident axioms; inductive generalizations from indubitable or stubborn facts; the mystic's method of labeling as unreal all except a specific sort of feeling; and the positivistic method of calling meaningless all which lies outside of an arbitrary definition of definition and meaning. These are all methods of refusing to let evidence be the guide for judgement.[33]

Dogmatic criteria of knowledge in Pepper's opinion, are not only illegitimate, they are useless as means for making progress in the search for knowledge.[34] They add nothing to the grounds or content to which they are applied. But he says one would be mistaken in thinking that good results have not been obtained by persons employing dogmatic methods.[35] Cognitive success has often been gained in spite of their employment. Historical cases can be cited as evidence that they are

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[32] RTM, p. 366.

[33] RTM, p. 366. There are more rejected methods listed in this article than are cited in the text above.

[34] WH, p. 38.

[35] RTM, p. 366-367.

unnecessary. For instance, the world view known as mysticism is frequently supported on the grounds of indubitable immediacy. There is no difference in the mystic's description of the nature of things whether it is offered as a certainty or an hypothesis. If the description is true, the mystic's intuition of the nature of things is upheld; if false; the intuition is illusory. Thus Pepper claims, there is no cognitive gain in dogmatically insisting on the intuition by appealing to a version of the criterion of indubitable facts.

> Dogmatism is, therefore, unnecessary. In fact, dogmatism has always in the history of thought been obstructive to cognitive advance, and the cognitive drive has come from a method of hypothesis. It is this method working beneath the dogmatisms of the great thinkers that has produced the advances in philosophy and science.[36]

Difficulties in Pepper's Views About Dogmatism

If Pepper considers his characterization of dogmatism (see above, p. 13) as a definition of dogmatism, one could object to it on the grounds that it is a persuasive definition.

> A 'persuasive' definition is one which gives a new conceptual meaning to a familiar word without substantially changing its emotive meaning, and which is used with the conscious or unconscious purpose of changing, by this means, the direction of people's interests.[37]

Here is a dictionary definition of dogmatism: "Positiveness in assertion in matters of opinion; statement of a view or belief as if it were an established fact; derogatorily, such positiveness or statement

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[36] RTM, p. 367. cf. MM, p. 261

[37] Charles Leslie Stevenson, "Persuasive Definitions," Mind, XLVII (1938), p. 331. This concept (Persuasive Definition) was originated by Stevenson. It is used here for criticism of Pepper's views.

when unwarranted or arrogant."[38] Pepper revised the conceptual meaning of "dogmatism" seemingly without considering the emotive meaning (e.g. the underlined phrases above) which remained untouched. The result of such a procedure is to enjoin implicitly persons whose positions fit the stipulated conceptual redefinition of dogmatism. The new definition thus has the effect of redirecting people's admiration. Whether Pepper actually intended to use the residual emotive meaning to sway interests is not known. Of course, Pepper is free to stipulate the conceptual meaning of a word as he sees fit, although one would expect more care in dealing with the emotive element.

The central part of the definition of dogmatism is the notion of attitude. It has been suggested that this is fairly described as one's state of mind in reference to the degree of confidence in the truth of a content. Previous criticism (see above, p. 15 ff.) has displayed the lack of a criterion for judging whether one's degree of confidence is in proper proportion to the known grounds (call this criterion I); neither is there a means provided for determining one's degree of confidence in a content (call this criterion II). This implies rejecting as either unworkable or unsupported that portion of the definition of dogmatism which reads: "a dogmatist is one whose attitude is not in proportion to the grounds of belief--one who believes, or disbelieves, or unbelieves too much in terms of the grounds of belief." The collapse of this aspect of the definition leaves two more facets which still may be workable.

Does anyone who resists the search for new grounds deserve the name

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[38] "Dogmatism," Webster's New International Dictionary of the English Language (2nd ed., Springfield, 1960), p. 765, emphasis mine.

"dogmatist?" An affirmative answer involves being able to show that proposed evidential items are indeed grounds for a particular content. A criterion for doing that has not been provided by Pepper (call this criterion III). The same deficiency (III) applies to the third characteristic of dogmatism: when presented with new grounds the dogmatist refuses to change his attitude accordingly. This third aspect of the definition also assumes having a criterion (I) for judging if one's attitude is appropriate to the grounds.

Thus far, application of the three parts of Pepper's definition of dogmatism has been prevented because of the lack of several criteria (I, II, III). Probably these criteria could not be found short of a metaphysical theory which, at this point, Pepper denies having. He is trying to be metaphysically neutral and describe the cognitive situation as it actually is in regard to dogmatism. No part of his conceptual redefinition of dogmatism succeeded because he failed to provide the criteria needed for its application.

That is unfortunate because the force of his persuasive definition of dogmatism must get its energy only from the emotive side. In a paper published in 1932, Pepper pointed out that

> . . .there is no means by which we can assure ourselves by merely looking at data or principles that they are not distorted by dubious subterranean hypotheses. And it seems to follow that the only rational way of discovering the nature of things is to spread out openly at the beginning the hypotheses which give things the nature we seem to perceive in them.[39]

This statement applies to Pepper's discussion of dogmatism. All he has accomplished is giving what amounts to a persuasive definition of

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[39] MSF, pp. 7-8.

dogmatism, the conceptual portion of which is unworkable. Therefore, whenever he uses the word "dogmatist," its only effect is expression of disapproval.

Probably there are not any intrinsically dogmatic methods--there are only dogmatic men. Any method, including either scientific or hypothetical methods, can be appropriated for a dogmatic person's purpose. A dogmatist is a man who promises himself "I will never change my opinion about this." "Dogmatic" and "fanatic" are very close in meaning. It would then be better to speak not of a method as dogmatic, but to say it is being used dogmatically.

Pepper has rejected belief in indubitables and certainties on the grounds that men have often given different indubitable descriptions of the same fact, or held conflicting certainties. These conflicting positions could be held non-dogmatically in spite of the conflicts if each person believes that to the best of his ability he has examined all possible evidence or suggestions for evidence. The conflict does mean that one of the proponents is wrong--it doesn't mean they are dogmatists.

Pepper can't afford to reject every theory which bears the mark of indubitability. As we shall soon see in the next section on skepticism, he believes that one can't rationally doubt what he has called "middle-sized facts," or dubitanda. He thinks they are the bottom ground beyond which skepticism cannot advance. Since they aren't rationally dubitable as a whole, they must be in some way indubitable.

Pepper has given a fairly convincing argument by simple enumeration that amounts to pointing out many historical examples of the failure of certainties, infallibilities and indubitables. This argument is good

reason for questioning anyone who claims to know something certainly or infallibly, or indubitably. However, this argument provides no grounds for naming as dogmatists persons who believe in certainties. Simply adopting a certainty is not a sufficient condition for being a dogmatist.

Skepticism

Professor Pepper believes that his study of dogmatism has shown that there are no ways for humans to ensure themselves of certainty. His examination of skepticism is an attempt to show to what degree one is justified in doubting. The study of dogmatism implies that some sort of doubt is healthy. The study of skepticism might be described as an attempt to place limits on doubt. His investigative approach in this case is to enumerate all the possible interpretations of utter skepticism, then examine each one. He begins by accepting that generally, an utter skeptic is "he who doubts all things."[40] Professor Pepper, one should note, gives his own meaning to "doubt." One genuinely doubts whenever "he finds the evidence on both sides so evenly balanced. . . that he neither believes nor disbelieves, but holds the proposition in suspense."[41] He hints again at this matter when he leaves the impression that doubt is a "sense of balance of evidence."[42]

Pepper's first interpretation of the position of the utter skeptic

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[40] WH, p. 4. Much of QI concerns the question of the limits of skepticism. However, the account given in WH is as complete and is somewhat better organized, so the WH treatment is summarized here.

[41] WH, pp. 4-5.

[42] WH, p. 6.

is that possibly the skeptic, in stating that he doubts all things, is asserting that all facts are illusory and all statements false.[43] According to Pepper's terminology, this is clearly not a position of doubt, but one of complete and certain disbelief in the reliability of all evidence and in the truth of all statements. It would be equivalent to state that this position is a belief in the unreliability of all evidence and the falsity of all statements. "For every instance of disbelief is simply the reverse of belief; it is belief in the contradictory of what is disbelieved."[44] Because this position amounts to holding an attitude of complete certainty of disbelief, it amounts to dogmatism; thus it is rejected.

This suggests the possibility that the utter skeptic in his doubt of all things is one who never believes nor disbelieves anything, but holds all propositions in suspense.[45] Pepper points out that this attitude of suspense of judgement is quite a common occurrence in cases involving balanced evidence pro and con, or in cases wherein evidence is lacking. But, generalizing from these isolated instances to state that an attitude of unbelief is appropriate for all things is a step unsupported by evidence. The presence of dubitanda in their varying degrees of reliability points toward the contrary. There are many cases of imbalance involving stronger evidence in support (or rejection) of a proposition. One does not find that all things are in a balance of evidence. For example one does not doubt that he sees blue when he

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[43] WH, p. 4.

[44] WH, p. 4.

[45] WH, p. 5.

observes a blue sky. The balance of evidence in favor of one seeing blue in that instance is very great as against slight negative possibilities. Furthermore, Pepper believes that one cannot consistently hold the position in question while continuing to act. "A consistent utter skeptic of the kind here supposed exhibits his beliefs and disbeliefs and denies his balanced doubts every time he takes a step or says a word. To avoid self-contradiction, he should never speak nor act."[46]

But suppose the utter skeptic is not referring to practical beliefs, but to the grounds for ultimate beliefs. That is, he might be claiming that if one pursues rational study out to its end, one finds that the evidence is evenly balanced for all sides of any question.[47] According to Pepper, this is a theory of the nature of things which the skeptic may assert as a certainty. This would be dogmatic and unacceptable. If not that, the skeptic may regard his position as a theory about the nature of things, while trying to support it with evidence. As a theory, this form of skepticism exhibits several shortcomings.

> And a most peculiar nature on this view all things must have. For take any statement: on this view the evidence for that statement must be evenly balanced; but so also must be the evidence for the evidence for the statement; and so on ad infinitum. For if there were ever any evidence for a statement that was not itself divided into two equally balanced parts of pro and con, there would be more evidence for something in the universe than against it, which would refute this position of the utter skeptic. . . .The utter skeptic. . . in presenting any sort of positive theory is always placed in an embarrassing position. For whatever that theory may be,

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[46] WH, p. 6.

[47] WH, p. 6.

> it must, on his own assumptions, be utterly doubted. . . .His only safety lies in silence, and then nobody listens to him.[48]

Finally, the utter skeptic might be one who doubts on principle the value of any kind of knowledge. Perhaps he is one who "turns to faith or action or emotion and sets his back against knowledge. Perhaps he finds the structure, or form, or method of knowledge itself deceptive."[49] Yet, one who completely disbelieves the products of knowledge is committed to believing in the deceptive structure of all knowledge. One must completely believe the latter, with certainty, or else some products of knowledge will be more credible than others. Through committing himself to a certainty, the utter skeptic becomes a dogmatist.

Pepper considers the "method of doubt" as one other possible interpretation of skepticism.[50] Its most famous exponent was Descartes. Pepper rejects the technique as a philosophical method on the grounds that it is only an expository device. It consists in trying to doubt everything in order to clear the area of discussion of its old doctrine so that, hopefully, one may begin anew.

To summarize Pepper's analysis of utter skepticism, he states that every interpretation of the general position leads either into dogmatism or into partial skepticism.[51] The latter is Pepper's term for one who suspends judgement in the presence of a balance (or lack) or evidence, but who believes (or disbelieves) in many things in varying degrees based upon the related evidence. Pepper believes that an utter skeptic

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[48] WH, p. 7.

[49] WH, p. 8.

[50] WH, p. 8.

[51] WH, p. 9.

must be an utter believer, or an utter disbeliever, or an utter unbeliever. He is obviously not the first, nor could he be the second since that is merely the first in its negative form. The skeptic is left with only unbelief as a haven. If he is a partial unbeliever, Pepper accepts his position as a legitimate possibility. But an utter unbeliever

> . . .sets demands upon the nature of fact and judgement and indeed of the whole universe which must be believed to guarantee the possibility of utter unbelief. . . .The position of the utter skeptic is, we find on careful scrutiny, impossible. It amounts to the self contradictory dogma that the world is certainly doubtful. If this thesis is taken seriously, it is not a skeptical position, but a dogmatic one.[52]

A man who makes a sweeping denial of knowledge does not appear to be accepting cognitive responsibility.[53] Yet, he is accepting as much cognitive responsibility as if he had claimed to know all things. The complete denial must be supported by evidence just as the positive claim must. The best attitude is to follow the evidence wherever it will lead. "Skepticism in excess of the evidence, or without any evidence, is not canniness in knowledge, but is dogmatic."[54]

Pepper concludes that "utter skeptic" is just a disagreeable name which we are likely to give someone who persists in doubting a belief which we prize for which we can't find adequate cognitive support. If the utter skeptic is not a dogmatist in reverse, he probably means to be a partial skeptic. In reality, Pepper states, the utter skeptic is a straw man. His examination of all the possible types of utter

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[52] WH, p. 9.

[53] Stephen C. Pepper, The Basis of Criticism in the Arts (Cambridge, 1963), p. 4. This book is henceforth cited as "BCA."

[54] BCA, p. 4.

skepticism leads him to assert that it is an empty name.

> . . .[The utter skeptic] is a good deal of a myth. Nothing is more common than to find men holding in imagination and with conviction what turn out to be logically or physically impossible beliefs. There may be men who honestly regard themselves as utter skeptics, but if there really are such they are hard to find.[55]

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[55] WH, pp. 9-10.

CHAPTER III

CORROBORATION AND HYPOTHESES

Having examined both dogmatism and utter skepticism, Dr. Pepper believes that he has shown reasons for their unacceptability. He thinks that this result plus his doctrine of common-sense facts enables him to resolve an important dilemma.

> . . .Either there are indubitable facts and we are able to observe them, or there is nothing left but utter skepticism. From between the horns of this dilemma I creep out by suggesting that there are middle-sized facts which are not indubitable, nor pure, nor very stubborn, but which none the less are not nothing and have enough resistance to demand attention. They have quite enough resistance to make every presumptuous theory look a little foolish sometimes. . . .That is the reason, when the latest theory has fallen and the newest indubitable has turned out to be dubitable, that the universe does not go completely out of existence as it ought. The world simply sinks back, as it always does, on the bosom of middle-sized fact.[1]

Thus, Professor Pepper thinks that there is left nothing but common-sense facts (or uncriticized evidence) upon which to base knowledge. Criticized evidence or postanalytical knowledge arises from a process of refinement of dubitanda.[2] The implements of refinement are the method of multiplicative corroboration and the method of structural corroboration. It is through these two techniques that men criticize, interpret, analyze, correlate dubitanda so that the result is postanalytical

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[1] MSF, pp. 12-13. cf. WH, pp. 2-3.

[2] IOF, pp. 124-125.

knowledge. Because there are two types of corroboration, Pepper believes there are two types of criticized evidence.[3] The products of multiplicative corroboration he calls "data"; those of structural corroboration are called "danda". One does not find a sudden leap from uncriticized to criticized evidence. There are degrees of corroboration of both kinds which are less refined than the most criticized forms of knowledge, yet which are more refined than dubitanda. For these kinds of evidence Pepper uses the terms "rough data" and "rough danda".

Multiplicative Corroboration

Multiplicative corroboration

> . . .comes from taking an observation repeatedly (or as often as we think necessary) till we are quite sure there has been no error. It is the corroboration of one observation with another, or of one man with another, where the fact observed is supposed to be exactly identical in the different observations. It is that identical fact that is said to be corroborated. It is a corroboration of man by man.[4]

A datum reaches its highest refinement if it is as free as possible from interpretation; that is, when it is refined to the point where observer interpretation is no longer a factor. "Absolutely ideal data are probably not available, but close approximations to them have been developed in the course of cognitive history."[5] Two species of refined data are distinguished: empirical data and logical data.

Empiirical data in their most refined form consist of pointer readings and correlations between pointer readings. These are the

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[3] WH, pp. 48-50.

[4] BCA, p. 6. cf. WH, p. 49; IOF, p. 125.

[5] WH, p. 52.

physical scientist's ideal data.[6] Pointer readings offer cognitive security because, primarily, they are as far removed as possible from the observer's bodily processes. Second, the fact that they can be read by the eye, one of our most discriminating senses, is important. The eye can also be aided by levers, lenses, etc. which increase its capability. A correlation occurs when several men, or one man, having reduced a dubitandum to a pointer reading, discovers a continuing stability of readings, or that two or more readings repeatedly occur in some precisely statable relation. The aim is to achieve cognitive items so clear, distinct, and simple that disagreement about them is nearly impossible. Types of empirical data other than the scientist's pointer readings (and correlations between them) are on less solid foundations. Indeed, the empirical data handled in the various disciplines usually labelled "sciences" range from near-dubitanda to rough data to well-refined pointer readings. Pepper believes that the more a discipline is concerned with pointer readings or with facts approaching pointer readings (e.g. statistical enumerations), the more objective and scientific it will be.

Logical data which comprise the second kind of refined data are

> . . .the evidence for the validity of logical and mathematical transitions and for those organizations of such transitions which are called logical and mathematical systems. . . .The aim is to obtain types of transition so simple and obvious that any and all men observing them will agree that they are legitimate.[7]

Logical data develop out of common sense to reach their most refined state in symbolic logic. Pepper follows the analysis given in

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[6] QI, pp. 134-135 and WH, pp. 52-53.

[7] WH, pp. 57-58.

Lewis and Langford, Symbolic Logic (New York, 1932), pp. 125-126, in that he claims that Lewis has named the principal kinds of logical data as substitution, inference (affirming the antecedent), and adjunction (conjunction). Professor Pepper thinks that any man with ordinary intellectual capacity would admit in a logical proof the obviousness of the steps of substitution, adjunction, and inference once the postulates and rules of substitution of the particular system were understood. Thus, he claims that the cognitive strength of logical proof is based on multiplicative corroboration in the form of logical data.[8]

Structural Corroboration and Hypotheses

Structural Corroboration

> . . .is not a multiplicity of observations of one identical fact, but an observed convergence of many different facts towards one result. We have a crude use of it in what we call circumstantial evidence, where a variety of different circumstances all point to a single conclusion. Repetitions of observations are frequently impossible. Wherever a question arises over a past historical event, for instance, the observation of that event can never be repeated and corroboration has to be made in terms of a convergence of evidence in terms of other facts than the one in question towards the probability of the nature of that event. Such corroboration requires a hypothesis to indicate the way in which the evidence may converge to corroborate a fact. The hypothesis holds all the corroborating facts together in a system and, in so far as the hypothesis is verified, the whole system of facts gains in probability. That is, every new fact that is added to the system of evidence and fits in with the hypothesis tends to corroborate not only the central fact at issue but also all the other facts in the system in their relationship to the hypothesis.[9]

The study of structural corroboration and danda involves the study

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[8] WH, pp. 58-59.

[9] BCA, p. 7. Cf. WH, p. 49; IOF, pp. 125-126. In WH, p. 70 one finds this additional related comment: "Danda are the facts that seem to be given as we note the extended corroboration of fact by fact. . . .

of hypotheses. Pepper acknowledges that there are as many views about hypotheses as there are views about knowledge.[10] He points out two positions other than his own: the common sense view wherein a hypothesis is equated with a guess; the conventionalist view that hypotheses are only human conventions for keeping data in order. A good name for Pepper's opinion of the nature of hypotheses would be the "structural view." He believes that other detailed views of the nature of hypotheses arise from the results of structural corroboration; there are as many of these detailed views as there are relatively adequate systems of unlimited structural corroboration. These systems are the various world hypotheses.

Pepper thinks that entering into detail concerning the nature of hypotheses in terms of structural corroboration would amount to becoming involved in one of the world theories. Pepper, therefore, confines himself at this point to general remarks on the nature of hypotheses in terms of structural corroboration. He believes his remarks will thus avoid constituting an injunction to world theories, which would be inappropriate because the only legitimate sources of such injunctions are world theories which purport to inform us about the structure of the world.

The cognitive value of structural hypotheses is generated directly out of the mode of cognitive refinement which requires them. That mode

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[they] are facts that ought to be given if the hypothesis which describes an extended mass of structural corroboration were true [italics are Pepper's]." Pepper uses the words "hypothesis" and "theory" interchangably as if they were equivalent in meaning.

[10] WH, pp. 71-74.

is structural corroboration.[11] And structural corroboration cannot get along except by the aid of theories which provide the hypothetical connections that bring evidence together. The reliability of a structural hypothesis can be increased by either developing the accuracy or "precision" of the hypothesis, or by extending the range of facts which it takes into it (Pepper's term for this is "scope"). Precision and scope are closely related. Increasing the precision inevitably leads to the accumulation of more evidence. Broadening the scope will lead to a more precise analysis of the evidence.

The ideal structural hypothesis is one of unlimited scope, one which all facts will corroborate.[12] Such is the nature of world hypotheses. They are the result of the search for reliability in confirming structural theories. So long as there are facts which have not been presented to the theory--facts which possibly will not corroborate facts already organized by the theory--the theory's reliability will be in question. The drive for reliability through more and more structural corroboration thus leads to the concept of an unlimited world hypothesis.

Not every structural hypothesis is unlimited as world hypotheses are.[13] Pepper thinks that it often proves useful in practice for specialists to draw an arbitrary line in nature, then stipulate that only the evidence within the guide line is relevant to the problem being studied, but the facts outside it are not. One employing this technique

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[11] WH, pp. 75-76.

[12] WH, p. 77.

[13] WH, pp. 77-78.

must realize that in terms of structural corroboration the hypotheses covering such facts are tentative, provisional and limited. They could only be otherwise if there were no disturbing facts bearing on them outside the arbitrary field. Whether there are such upsetting facts cannot be known unless one explores to see. Such an exploration through structural corroboration would lead into a world hypothesis of unlimited scope.

World hypotheses draw data into their scope as well as danda. In that manner they acquire the cognitive strength of multiplicative corroboration.[14] However, data are not necessarily cognitively self-justified. Cognition needs both kinds of refined evidence although Pepper is convinced that within the domain of structural corroboration danda must come first; data must submit to structural corroboration.

Pepper believes that there is a tension between the two types of criticized evidence which is similar to that between critical evidence in general, and common-sense evidence.[15] A typical response to corroboration is to assert that data have priority over danda. The more refined a datum becomes, the less the chance of it giving away to a dandum, simply because the refined datum contains very little by way of assertion. But rough data constantly give way to established hypotheses. Pepper's example is that ghosts are often observed by earnest persons. Yet, ghosts are doubted by scientists and philosophers because the existence of ghosts doesn't fit into well-established physical theories; they are explained away as highly interpreted perceptions.

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[14]WH, p. 78-79.

[15]WH, pp. 50-51.

The greater the refinement of structural corroboration, the less distinct are the contrasts between hypothesis and evidence.

> In a world theory it is impossible to say where pure fact ends and interpretation of fact begins. Within the theory itself the distinction is clear. The theory will tell you what in fact is fact and what in fact is theory. But another equally reliable theory will draw the line in another place.[16]

The aim of a world hypothesis is to make the structure of corroboration so natural, so lacking in arbitrary elements, that it constitutes the very structure of nature and is not hypothetical at all. One fact will corroborate another fact only if the structural bearing of the one on the other is itself a fact.

> The aim is to make the very structure of the corroboration, so to speak, natural or causal, and to remove all arbitrary elements (except the bare symbols of verbal expression) from the hypothesis. So far as this aim is achieved, the hypothesis constitutes the very structure of nature and is not hypothetical or a hypothesis at all.[17]

Pepper realizes that this ideal of his structural view of hypotheses is not attained, as shown by the conflict of world hypotheses with each other, and by their internal deficiencies. But we do get some idea of the world from these theories. Without them we would be mostly in the dark.

Highly refined danda of the best world hypotheses have often been adopted by philosophers as indubitable and certain. Pepper believes, however, that well-refined danda are highly probable, but less than certain and indutitable.[18] None of the competing systems of structural corroboration can support a claim to absolute truth. Pepper regards

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[16] WH, p. 79.

[17] WH, p. 80.

[18] WH, pp. 80-81. cf. IOF, pp. 121-126.

them as hypothetical.

> Preanalytical fact is vague and subject to correction, and can only claim indubitability if it can survive analysis. . . . Postanalytical data could well be indubitable. . .yet the very circumstance that they emerge from analysis of preanalytical data makes it hard to believe that they are literally indubitable. For only if the methods used in analyzing preanalytical data were themselves free from the possibility of error would it appear safe to assume that the products of these methods were free from the possibility of error.[19]

Pepper considers the question, in what way does a structural world theory differ from a scientific theory?

> If by 'scientific' is meant the methods which present-day sciences employ and accept in practice, our answer must be: 'There is no difference. At most there is only the difference of scope, and even that does not hold since scientists today as always have assisted in the development of structural world theories and have often ardently believed in them.'[20]

In other words, in this context the only difference between scientific theories and world hypotheses is that the former are limited in scope and the latter are not.

Pepper reframes the above question in a way that he thinks reveals the motive for asking it: How is a structural world theory different from a conventionalistic hypothesis like that developed by the positivists?[21] His answer is that a conventionalistic theory is admittedly artificial and distinguished from the evidence it unites. The criteria for its value are economy of intellectual effort and elegance, or utility and beauty. A developed structural world theory is not easily distinguishable from much of the evidence it organizes. It is, then, conceived as a natural and inevitable reflection of the structure of the

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[19] IOF, pp. 124-125.

[20] WH, p. 82. cf. MM, p. 253; RTM, pp. 368-369.

[21] WH, pp. 82-83.

evidence it organizes; it is not conceived as something artificial. A structural world theory is conceived as if the references of its symbols passed directly out into the natural structures being symbolized.

> To state the contrast in brief: the data systematized by a conventionalistic hypothesis provide no evidence whatever for the cognitive value of the hypothesis, whereas the danda organized by a structural hypothesis do constitute evidence for the cognitive value of that hypothesis's. If truth means the possession of a cognitive value, then to say that a conventionalistic hypothesis is true (or false) would be a self-contradiction, whereas to say that a structural hypothesis is not true (or false) would be a self-contradiction. From this, it will probably be generally admitted that scientists make considerable use of structural hypotheses. Philosophers are not the only men in pursuit of the truth, nor scientists the only men collecting facts.[22]

Since Pepper thinks that structural corroboration is legitimate cognitive criticism, one is naturally led to inquire about the source of its legitimacy. Pepper has little to say about this. He does make this statement which leaves the question hanging: "The corroborative procedures [both structural and multiplicative] are themselves. . .clearly exhibited as a part of the world's total fund of evidence."[23]

Objections to Pepper's Characterization of World Hypotheses

Pepper's opinion that breadth of scope is the only difference between scientific theories and structural world theories is a view that requires closer scrutiny. For if that is the only difference, a metaphysician is then some kind of super-scientist. Presumably, under Pepper's approach the metaphysician's proper task is dealing with

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[22] WH, p. 83.

[23] MM, p. 269. He goes on to make this enigmatic comment: "I am even tempted to suggest that these corroborative procedures constitute our best contemporary answer to the problem of induction."

structural world hypotheses. Surely, Professor Pepper does not want to maintain that a metaphysician, by virtue of being an expert on unlimited world theories, is the ultimate scientist. Probably, neither would he want to hold that the methods employed for evaluating scientific theories are the same as those used for evaluating metaphysical theories. But these consequences are implied if one asserts that scope is the only disparity between science and metaphysics. There must be more contrast between these two than simply theoretical scope. For one thing, Pepper has claimed that both scientific hypotheses and world hypotheses can rightly be said to be true or false. Whether this is correct for scientific theories need not be raised at this point. However, it is important to reply to Pepper by giving some reasons why metaphysical theories (Pepper's world theories) are improperly described as being true or false in the same sense as scientific theories are true or false.

The Logical Positivists against whom Pepper has reacted so strongly hold that there are just two kinds of philosophically significant statements. They hold that a statement is literally meaningful if and only if it is either analytic or empirically verifiable. This is the basis for the Positivist charge that most statements in metaphysical discourses are either tautologies or they fit neither of the two possible categories of meaningful utterences.

Recent writers on metaphysics have suggested that the Positivist list of the types of meaningful statements is not complete.[24] These philosophers (e.g. Walsh, pp. 154-170) have proposed that there are,

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[24] v. Milton K. Munitz, The Mystery of Existence (New York, 1965), pp. 241-254; W. H. Walsh, Metaphysics (London, 1963), pp. 154-188; Friedrich Waismann, "How I See Philosophy," Contemporary British Philosophy, ed. H. D. Lewis (London, 1961).

indeed, three classes of meaningful statements: analytic (or formal) statements, empirical (or material) statements, and categorial (or metaphysical) statements. The line of argument which this writer is offering is that Pepper has tried to place both metaphysical and scientific theories in the class of empirical statements. This mistake arose from his desire to defend metaphysics from the Positivist "nonsense" charge. But Pepper apparently fell into their trap by accepting the strictly dichotomous Positivist classification of significant propositions, then attempting to show that "world hypotheses" are empirical. The better approach is to revise the classification of significant propositions. When this is done, Pepper's world hypotheses appear as categorial schemes--systematic arrangements of the third type of significant statement.

A categorial statement is a proposition which incorporates, or is licensed by, a categorial principle. "Philosophical problems can be tackled piecemeal" is an example of a categorial statement which is warranted by the categorial principle "Tackle philosophical problems in a piecemeal manner."

Categorial principles are used as rules. They are supposed, not asserted. They function as fundamental presuppositions in terms of which one makes sense out of experience. Categorial principles are of a higher logical order than empirical or analytic statements. They provide a framework upon which knowledge is built. One great difference between metaphysics and science, then, is that science is an activity proceeding under a set of generally agreed upon rules or categorial principles, while metaphysicians are advocating, comparing, developing different sets of these rules. Thus, the question of true or false is

quite different between science and metaphysics. For example, some of the agreed upon categorial principles in science are what are known as "decision procedures"--rules by which the scientific community determines whether to accept or reject a scientific theory. There is no similar case for metaphysics. In that discipline there is no generally accepted decision procedure for rejecting or accepting categorial systems (or world hypotheses, if you will). There is no "objective" proof for a metaphysical theory because it is a system or scheme of categorial principles. The reason there is no mutually agreeable decision procedure for metaphysics is that metaphysicians are involved in advocating just what the rules should be--not only rules for science, but rules which are the unquestioned, ultimate conceptual framework in terms of which one looks at the world, guides his inquiries, and interprets his experience.

Thus, to condemn metaphysics viewed in these terms is absurd. "To say that metaphysics is nonsense <u>is</u> nonsense."[25] Metaphysics does not give information of a factual sort; it is not a science like physics is a science; it is neither primarily a deductive nor an inductive discipline. In it "there are no questions which can be decided, yes or no."[26] The metaphysician does offer arguments to support a point of view, but not for the purpose of <u>proving</u> his position true or false. The metaphysician's task is to give a rational vision of the world. ". . .To an outsider. . .[the metaphysician] appears to advance all sorts of arguments, this is not the decisive point. What is decisive is

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[25]Waismann, p. 489; his italics.

[26]Ibid., p. 447.

that he has seen things from a new angle of vision."[27]

If this discussion is correct, Pepper is wrong in claiming that scope provides the only diversity between scientific and metaphysical theories. There is so much difference that it is a bit unwise to continue to use "hypothesis" and "theory" in both areas without delineating what those words mean for each of the two disciplines. Except when summarizing Pepper's position, it would be wise to speak of hypotheses and theories in reference to science. For metaphysics the phrase "categorial scheme" is better than "world theory" or "metaphysical hypothesis."

Critique of Multiplicative Corroboration

Empirical Data. In his separation of empirical data from danda Pepper may be making a distinction without very much difference. A refined datum achieves that state by a process of refinement, or better, by a hypothesis of refinement. This suggests that Pepper may have the cart before the horse. He seems to believe that empirical data can be found by simply looking for them. That this is not true is indicated by the aphorism that one finds what one is seeking. It would be more accurate to say that a single empirical datum refined to the highest purity is as much a product of a hypothesis as it is of observation. If that is correct, there is little difference between an empirical datum and a dandum.

As an example of a refined empirical datum Pepper cites the concept of temperature.[28] The idea of temperature begins with ordinary common-

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[27] Waismann, p. 483.

[28] WH, pp. 53-57. cf. QI, pp. 138-139.

sense feelings of hotness and coldness as we touch objects. A first refinement of the concept might be made on the basis of (1) a common-sense correlation that it is possible to bring two bodies into contact and experience no change in the hotness of either body (notice here the implicit introduction of the hypothesis that heat in an external body is something which somehow causes the sensation of temperature). If when a piece of steel which feels cooler, is placed in contact with a piece of wood which feels warmer, and if no difference is felt in their individual heat, then their heats may be said to be equal. Another refinement may be made on the basis of (2) another correlation, viz.: the volume of a body generally expands upon heating. An instrument is constructed by means of which this correlation is controlled and standardized into a reading on a scale. After this point, further refinement comes in the perfecting of more precise instruments. When all this is finished, to find the temperature of a body one need merely place the instrument against it and read the pointer (note the implicit association of temperature as a sensation with temperature read from an instrument). The pointer reading is the completely refined empirical datum.

It will be helpful to separate two aspects of the notion of an empirical datum. There is, first, the observational side. One may look at a meter, then report "pointer at quantity X." He may corroborate that reading by either checking it again himself several times, or he may ask another person (or many other persons) to read the meter and report their findings. If in all cases the meter is read at X, then several things have been confirmed with high probability: (1) the first individual by repeating his own observations eliminates the possibility of having misread the meter; (2) by asking others to read the meter he

further strengthens that belief plus eliminating the chance that there is something wrong with his senses; (3) agreement by all who have read the meter that it is at X decreases the possibility of fraud. If all this is what Pepper means by multiplicative corroboration in the sense of a refined empirical datum, there can be no quarrel with him. This being true, what Pepper calls an empirical datum is nothing more than a well-attested observation statement; and multiplicative corroboration consists only in the three processes of attestation listed above. Multiplicative corroboration, then, simply provides assurance against fraud, hallucination and human inaccuracy. But Pepper wants empirical data and multiplicative corroboration to do more which leads to the second aspect.

Pepper wants empirical data to have significance of their own. He wants "The meter is at X" to mean that "The temperature is X." But, this operation introduces a hypothesis. Observation statements are lacking in significance unless an explanatory hypothesis is provided. In multiplicative corroboration a similar situation persists. If Pepper wants it to include the ability to refine, as he apparently does, then he ought to admit the part played by hypothesis in that process. In the temperature example there are at least three places where hypotheses were tacitly used: the two correlations mentioned and the step of "perfecting the instrument." Thus, when several people read a meter and say "the temperature is X," the interpretation added to the raw observation statement is due to several hypotheses: (1) that temperature is an effect of heat; (2) that heat is correlated with expansion; (3) that the mechanical or electrical meter movement is directly tied in with the source of heat in such a way that it is "reading" the quantity of heat (included in this are all the various theories of

electrical or mechanical systems). This implies that multiplicative corroboration of this second kind is really a special kind of structural corroboration--a kind involving the convergence of several different observations (all of the same object in this case, but different observations nonetheless) toward one result, namely the confirmation of the hypotheses which refine, interpret, correlate, the empirical datum.

Logical Data. There are some further difficulties in Pepper's second type of refined data, logical data. He limits the principal kinds of logical data to three but gives no reason why adjunction, for instance, is a more primary or important operation than the operations of separate assertion, joint assertion, and implication which it incorporates. How could one assent to the simplicity and obviousness of an adjunctive operation without first grasping the other three concepts mentioned? Adjunction is not as simple a process as it first appears. If someone replies that it is unnecessary to proceed to the level of the more basic concepts before adjunction becomes simple and obvious, let him try to explain it to a group of inquisitive freshmen without first discussing at least some of the more basic ideas.

There is a more notable source of confusion in the notion of logical data as a particular set of "simple and obvious" operations by which transitions occur in logical and mathematical systems. A science like mathematics is deductive if it proves subsequent propositions by deducing them ultimately from unproved postulates using accepted logical techniques. Similarly, one may develop a propositional calculus from a set of postulated principles which will enable one to test arguments and perform other useful applications of reasoning. Both illustrations are examples of logical systems--bodies of knowledge organized by extra-

systemic deductive logic (logical data if you will). But, neither of these examples are systems of logic. They each depend upon "ordinary" logic for their development. They assume logic without specifying what logic is, without stating what the principles of inference are. Pepper says that these principles of inference are logical data, which are "Substitution," "Adjunction," and "Inference."

It is possible to have a science or deductive system of logic which will have deduction itself as its subject matter. Systems of this kind are referred to as logistic systems.[29] Briefly, any logistic system contains the following elements: (1) a list of primitive symbols plus symbols defined in terms of them, these being the only symbols allowed within the system; (2) a purely syntactical (formal) criterion for dividing sequences of symbols into those which are well formed formulas (wffs) and those which are not; (3) a list of unproved wffs assumed as postulates; (4) a purely syntactical criterion for dividing sequences of wffs into valid and invalid arguments; (5) a purely formal criterion for distinguishing between theorems and nontheorems of the system.[30]

Using a well known logistic system identified as RS (Rosser's System), let us determine where Pepper's three principal logical data fit into it. The logical datum called Inference is assumed in RS as the only primitive operational rule (R1) used for legitimizing arguments. Rule R1 plus the definition of a "demonstration of validity" constitute the materials needed for understanding the concepts "proof" and "theorem."[31] In RS Pepper's Adjunction is a Derived Rule of Inference;

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[29] Irving M. Copi, Symbolic Logic, (New York, 1965), p. 184.

[30] Ibid., p. 187.

[31] Ibid., pp. 206-208; p. 219.

Substitution is developed as a Metatheorem.[32] Thus, in RS only one of Pepper's logical data was required as a part of the five above essentials for a logistic system, the other two logical data being derivative. RS is expressively complete with respect to the subject matter of truth-functional propositional logic techniques.

Even the logical datum "Inference" may not be required for the development of an adequate logistic system. There are many different logistic systems equally as adequate as RS. The difference lies in that they start with different particular means of fulfilling the five criteria of logistic systems discussed above. The Nicod System (NS) is especially pertinent to the present problem.[33] NS uses one primitive operator symbol, the Peirce stroke function. Most systems use at least two undefined operator symbols. There is only one primitive axiom and only one primitive operational rule. Since Pepper's logical data are supposed to be the simple and obvious modes of logical transition, one would expect the primitive operational rule in NS to be one of the three types of logical data, but it is not. The underived operational rule in NS is: From P and P| (R|Q) to infer Q. That this is not the same as Pepper's "Inference" is seen from the NS symbolization of Pepper's Inference which is: From P and P| (Q|Q) to infer Q. Neither of the other two principal logical data appear directly in NS; however, they are derivable from it.

Pepper's three principal logical data thus boil down to a

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[32] Irving M. Copi, Symbolic Logic, (New York, 1965), p. 228.

[33] Ibid., pp. 260-269.

preference for the natural language interpretation of three postulated rules of a particular logistic system--Lewis' System.[34] It is clear that there are operational rules assumed as part of the unproved base of every successful logistic system, but in each case they are sufficient conditions, not necessary ones. These assumed rules are not all similar to the three Pepper enumerates, as the Nicod System illustrates. The only useful part of the whole idea of logical data as originally proposed lies in the five requirements common to all logistic systems. If this is all the remains, the concept of logical data can be scrubbed, because one need not multiply one's technical vocabulary beyond necessity.

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[34] Lewis and Langford, pp. 125-126. On p. 125 one finds this statement: ". . .The importance of the logistic method lies in the fact that proofs take place through operations according to precise rules which are independent of any logical significance of the system. The operations to be allowed [in our logistic system] are the following: Substitution. . .Adjunction. . .Inference." In other words, these three have the status of primitive operational rules in Lewis' System.

CHAPTER IV

THE ROOT METAPHOR THEORY

Everything to this point would be effectively labelled the pre-root-metaphor portion of Mr. Pepper's work. That part is intended as a foundation of cognition which he believes would be accepted by anyone taking a broad and tolerant approach to this general subject matter.

> Those conclusions [of the pre-root-metaphor portion], and the evidence and reasoning on which they are based, are a sort of bed-rock of cognition. That utter skepticism and dogmatism are self-defeating, that there is common sense, that we do have great confidence in data, which numbers of observations confirm, and in danda, which large masses of fact confirm--those seem to be minimum conclusions safely acceptable. But one may accept those conclusions without accepting the suggestions of this chapter. Here I shall offer a hypothesis concerning the origin of world theories. . .[1]

One question that immediately comes to mind concerns the standard for truth used in the pre-root-metaphor studies. The eclectic theory of truth Pepper advocates after the development of the root-metaphor theory may depend upon the root-metaphor approach for its correctness. If this is so, perhaps Pepper is advocating two standards for truth. It will be wise before considering that point to continue with a discussion of the root-metaphor theory.

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[1] WH, p. 84.

Origin and Development of World Hypotheses

Professor Pepper's root-metaphor hypothesis is an account of the origin of world theories--

> . . .a hypothesis which, if true, shows the connection of these theories with common sense, illumines the nature of these theories, renders them distinguishable from one another, and acts as an instrument of criticism for determining their relative adequacy.[2]

Pepper believes that world theories can be generated by either of two techniques. The first is by elaboration of analogies. The second is by permutations of logical postulates. The root-metaphor theory uses the former approach.[3] Pepper's analogical method of generating world theories is this:

> What I call the root metaphor theory is the theory that a world hypothesis to cover all facts is framed in the first instance on the basis of a rather small set of facts and then expanded in reference so as to cover all facts. The set of facts which inspired the hypothesis is the original root metaphor. It may be a ghost, or water, or air, or mutability, or qualitative composition, or mechanical push and pull, or the life history of youth, maturity, and age, or form and matter, or definition and similarity, or the mystic experience, or sensation, or the organic whole, or temporal process. Some of these facts in the course of expansion may prove adequate, others not. At first they are accepted as they are found in uncriticized fact. How else could they be found? They are generally dogmatically assumed to be self-evident and indubitable. They are cognitively digested and analyzed. Their structure is usually found capable of rather wide extension through uncriticized facts not at first supposed to be of their nature. This structure is then elevated into an hypothesis for the explanation of other uncriticized facts, as a result of which these become critically interpreted in terms of the root metaphor. In the course of this interpretation, the root metaphor itself may undergo critical analysis and refinement which reciprocally increases its range and power of interpretation. When it assumes unlimited range, or world-wide scope, then it is a metaphysical hypothesis, and a

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[2] WH, p. 84.

[3] v. WH, pp. 87-91.

> catalogue of its principal descriptive concepts is a set of metaphysical categories. That is the theory.[4]

From expansion of root metaphors, over the centuries several fairly adequate world hypotheses have been developed which have a maximum of scope and precision. These are four in number and are named by Pepper as Formism, Mechanism, Contextualism, and Organicism.[5] Pepper believes that several important consequences follow from his root metaphor theory. He lists these consequences as "Maxims."

Maxim I: "A world hypothesis is determined by its root metaphor."[6] Although the various individual statements of a single world hypothesis may be given by several different men, because they are all developing the same metaphor, the hypothesis, then, is the same. There should be some single statement of the theory, its categories, and its root metaphor which pictures the theory at its best. World hypotheses are generated primarily through a refinement of the categories [aspects] of their root metaphor. A world theory's adequacy depends on its potentiality for description and explanation instead of the accumulation of actual descriptions.

> The testing of a world hypothesis consists in presenting to it for description types of fact or specimens from diverse fields of facts, and if it can adequately describe these, we assume that it can describe the rest. Experience has made philosophers pretty well aware of what are likely to be the hardest facts for a world theory to handle, and these are at once respectfully presented for solution to any young hypothesis that ventures to

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[4] RTM, p. 369. cf. WH, p. 91; MM, pp. 262-263; Stephen C. Pepper, "Philosophy and Metaphor," The Journal of Philosophy, XXV (1928), pp. 130-132.

[5] v. WH, pp. 141-142; cf. RTM, p. 370.

[6] WH, p. 96.

> claim world-wide scope. If the description of these facts tolerably well passes criticism, critics scour the universe for some other evidence which will break the theory down.[7]

Maxim II: "Each world hypothesis is autonomous."[8] This follows from the realization that several world hypotheses may be equally adequate, thus autonomous, because no other world theory of greater adequacy is available, so each of the best ones must be about as reliable as the other. Pepper lists several corollaries to this maxim.

> (1) It is illegitimate to disparage the factual interpretation of one world hypothesis in terms of the categories of another--if both hypotheses are equally adequate.
> (2) It is illegitimate to assume that the claims of a given world hypothesis are established by the exhibition of the shortcomings of other world hypotheses.
> (3) It is illegitimate to subject the results of structural refinement (world hypotheses) to the cognitive standards (or limitations) of multiplicative refinement.
> (4) It is illegitimate to subject the results of structural refinement to the assumptions of common sense.
> (5) It is convenient to employ common-sense concepts as bases for comparison for parallel fields of evidence among world theories.[9]

Maxim III: "Eclecticism is confusing."[10] This follows from Maxim II. Since world hypotheses are autonomous, they are mutually exclusive. That means mixing parts of several world hypotheses to form an eclectic world theory would be confusing. That world theories are mutually exclusive does not mean that each does not interpret all the others, including them within its scope. We become aware of their mutual exclusiveness by viewing them from the common-sense viewpoint, and by remembering that the source of world theories is their root metaphor. Since

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[7] WH, pp. 97-98.

[8] WH, p. 98.

[9] WH, pp. 98-102.

[10] WH, p. 104.

there are no better sources of cognitive criticism than the relatively adequate world hypotheses, irresponsibly combining aspects of them is unfounded, unless one is striving for a new world theory based on a new root metaphor. Pepper is opposed to "static" eclecticism, but he thinks "dynamic" eclecticism is useful. But both sorts are confusing and can only be comprehended by untangling the various root metaphors involved. The only saving grace for the dynamic variety is that it is creative, occasionally productive of new root metaphors.[11]

Maxim IV: "Concepts which have lost contact with their root metaphors are empty abstractions."[12] This maxim is often known under the title "fallacy of hypostatization." A concept is no better than the corroborative evidence for it. If it demands respect in its own right, hypostatization has begun.

The several maxims devloped do not provide a standard of adequacy for the different pure root-metaphor theories. Since Pepper believes that even the best world theories are inadequate to some degree, the question of relative adequacy is an important one.

> How, then, do we discover that a theory is inadequate? By its own judgement of its own achievements in attaining complete precision in dealing with all facts whatever presented. A world theory, in other words, convicts itself of inadequacy. By its own logic, or refined canons of cognition, it acknowledges its own short-comings in dealing with certain kinds of facts. These judgements, once made by the theories themselves, can then be compared externally. Theories which show themselves up as dealing much less adequately with the world-wide

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[11] WH, p. 107.

[12] WH, p. 113.

> scope of facts than others are said to be relatively inadequate; the others, relatively adequate.[13]

A world hypothesis may convict itself of inadequate scope as easily.

> It follows that whenever a world hypothesis makes an appeal to 'unreality' (especially as an explanatory or interpretative principle), it unwittingly convicts itself of inadequacy, and the more definitely it locates its fields of 'unreality' the more definitely it shows just where it falls short of world-wide scope and factual corroboration.[14]

Pepper proceeds to develop as many pure root-metaphor world hypotheses as he can find in the history of philosophy. He finds six, two of which are rejected because of inadequate scope (mysticism, see WH, p. 127) and inadequate precision (animism, see WH, p. 120). The four relatively adequate world hypotheses are then developed according to their root metaphor and categorial scheme in what Pepper hopes is their best form.

Standards of Truth

Because the four best world theories have about the same degree of adequacy, no one of them can be the judge of the others.[15] Pepper's general stand is for a reasonable post-rational eclecticism. For practical application one must be mindful of the judgements of all four rationally justifiable theories. If one wants information on any topic--truth, time, universals, causality, society--one must find what each of the four alternative world theories can provide in the matter, then act

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[13] WH, p. 115-116. cf. Stephen C. Pepper, "Reply to Professor Hoekstra," The Journal of Philosophy, XLII (1945), pp. 105-108. This article will be cited as "RPH."

[14] WH, p. 118. cf. RPH, pp. 105-108.

[15] WH, p. 330.

as one thinks best. Pepper has followed this procedure very carefully for esthetics in his well-written book, The Basis of Criticism in the Arts. Tracing out Pepper's theory of truth will provide an example of part of this procedure besides serving as a springboard for the question of double standards of truth which was mentioned earlier.

Pepper has often stated that truth is cognitive value. ". . .'Truth' is the common name given to what is prized in cognition."[16] The concept of truth is first encountered in common sense as a dim notion something presumably like "telling just what happened" as contrasted to a lie or an error which would be "intentionally or unintentionally saying what did not happen." This unclear field of rough common-sense material becomes refined by each of the various structural theories of the nature of cognitive value. Each of the four best world hypotheses will have as a component one of the better theories of the nature of cognitive value. Hence, the nature of truth is variously described by the best world hypotheses (e.g. see WH p. 180, or p. 221, or p. 268, or p. 308).

A crucial question thus arises. Presumably the refinement of the common-sense rough notion of truth into one of the definite well-refined theories of truth comes about through the working of the root-metaphor categories of a definite world hypothesis. That is, metaphysical categories must logically precede any well-refined theory of truth because it is the categories of some world theory that provide the tools for refinement through structural corroboration of any common-sense notion,

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[16]WH, p. 343. cf. WH, pp. 82-83, p. 86; Stephen C. Pepper, "On the Cognitive Value of World Hypotheses," The Journal of Philosophy, XXXIII (1936), pp. 575-577.

truth included.[17] The desideratum is a truth theory by which Pepper determined that these are true statements: common-sense material as a whole is secure in that it is never lacking; a reasonable man is one whose attitude in respect to content is guided by the grounds of belief; there is nothing cognitively legitimate in utter skepticism; one who doubts a proposition holds it in suspended judgement; there are two types of corroboration, structural and multiplicative; the persuasive force of structural corroboration comes from a mass of convergent evidence upon the same point of fact. These are all examples of propositions established as true before world hypotheses, root metaphors, or categories were discussed. This strongly suggests that Pepper implicitly used a theory of truth to develop his views on common-sense material, types of corroboration, types of evidence, the nature of dogmatism, the nature of skepticism, types of hypotheses, and the root-metaphor theory. This personal theory of truth (personal epistemology would be a better description) is not gotten in the way Pepper recommends--through post-rational eclecticism. A suggestion as to the source of Pepper's personal epistemology will be raised shortly. As to what its nature might be, one could reasonably speculate that it is the particular viewpoint explicitly stated in some of his earlier work, a position which looks very much like his present conception of structural corroboration:

> . . .this is my theory of truth. A singular proposition or its equivalent is true if the symbols from which it starts are able, by following out their references unimpeded, to reach a simultaneous satisfaction in some object. . . .A universal proposition involving similarity is true under varying conditions, these conditions depending on the nature of the universal proposition. But the following general conditions hold for the

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[17] To confirm that this function of categories is Pepper's view see WH, p. 91, pp. 328-329.

> truth of any universal proposition: (1) certain symbols in the propositions must refer indifferently to any of a number of objects. (2) These objects must be capable under proper circumstances of producing a convergent response [italics mine, not Pepper's]. (3) There must be certain other symbols in the proposition referring to the convergent response. The proposition is true if conditions (1) and (3) can be satisfied by condition (2). Take the proposition 'All men are mortal.' The subject fulfills condition (1) the predicate condition (3). The possibility of witnessing a battle or a mass execution, if these be regarded as fair samples of the observation of any number of men dying, would fulfill condition (2). . . .The theory I have been describing has many affinities with a pragmatic theory of truth [he continues to state what is incorrect about the pragmatist approach].[18]

Having established that there is a personal theory of truth subterranean to Professor Pepper's work, it is time to ask from whence this theory came. Pepper has provided the answer when he stated that a theory of truth is generated from common-sense material by the categories of a world hypothesis.[19] That means there is likely to be a subterranean metaphysical theory beneath the subterranean epistemology. Parts of the categorial scheme of that theory may be suggested in the quotation immediately preceding. Another reason for believing that there is a tacit metaphysical theory underlying Pepper's work is provided by another of his earlier papers in which he makes this statement (which seems correct): "There is no legitimate way of segregating fact from theory except within a theory, and then the facts within that theory are the concrete reflections of the abstract theory."[20] Pepper has tried to

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[18]Stephen C. Pepper, "Truth by Continuity," University of California Publications in Philosophy, X (1928), pp. 57-58. This quotation does not do complete justice to the theory as put forth in the whole article. It was not intended to do so. The quotation serves the purpose of indicating what might be a direction for speculating about the nature of what has been suggested to be Pepper's personal epistemology.

[19]WH, pp. 342-343.

[20]MSF, p. 12.

describe the philosophical situation in metaphysics as it is. He has tried to be neutral in doing this. The above note about fact-theory relationships (and other statements he has made about the function of metaphysical theories) should have convinced him that one gets nowhere in critical cognitive work without a logically prior categorial scheme.

This brings up the question about why Pepper failed to make his underground theories explicit as best he could. One would be guessing in the dark if he tried to answer that question completely. In some ways the question is loaded. Nevertheless it leads to a very important issue concerning what Pepper thought he was doing in World Hypotheses and allied work. Pepper objects to the "traditional" attitude of expecting an unquestionable criterion of truth and factuality to be at hand.[21] He regards the central theme of World Hypotheses to be the opposite of this uncritical "traditional" attitude. He urges that the only attitude justifiable in cognition is that of expecting that every cognitive element will need evidence to support it. He thinks that we need evidence to establish what is evidence. He advocates this because he is convinced of the cognitive unworthiness of dogmatically building on certainties. But then in this new, nontraditional approach he proceeds to state many true propositions (see above, p. 68) which depend on a tacit theory of truth which in turn depends on a tacit metaphysical scheme. Also it has been established that dogmatism is less fearful than he thinks it to be (see above, pp. 31-35).

Pepper wanted to be neutral metaphysically so he could describe and diagnose the discipline of metaphysics. One can't do that because,

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[21] RPH, pp. 101-102.

logically speaking, before a "fact" can be described or diagnosed, one must have a metaphysical scheme. Before one criticizes one must possess an instrument of criticism.

The previous discussion of dogmatism also implies that Pepper's opinion about the nature of the "traditional" cognitive procedure is somewhat misdirected. It is not correct that the "traditional" attitude (if one can even talk of such a unified entity) expects an unquestionable criterion of truth and factuality to be at hand. Many philosophers in their methodology have begun, by stating, as explicitly as possible, what their instruments of criticism are. They propose this undogmatically as the best theory of criticism (or categorial scheme) that they have been able to develop. If another person thinks he has a better one, the first man willingly listens and if convinced changes his critical methods. Just because the first man uses words like "indubitable" or "certain" does not brand him as a dogmatist. The metaphysicians Pepper labels "dogmatic" are advocates of categorial principles. Pepper's confusion that empirical evidence can "disprove" categorial principles is the source of his mistaken dogmatist charge. One would be dogmatic if one were unwilling to listen to others talk about one's ideas, or if one were unwilling to change one's position. Whenever one begins discussing experience in a critical manner, he has already incorporated a theory of criticism. This verity seems unclear to Pepper. Having begun to discuss experience (of which the subject matter of metaphysics is a part), a more thorough philosopher will do his best to make explicit the categorial scheme that is logically prior to his critical exposition of experience.

The Question of Adequacy

Pepper's standards of adequacy are attempts to provide an objective standard by which one may choose between competing metaphysical systems. If he is successful in this, he will have provided a decision procedure for metaphysics. Scope, precision and internal consistency are the three criteria he proposes for "testing" a world hypothesis. A world theory "convicts itself" of inconsistency and inprecision. Inadequate scope is apparent when a world theory appeals to "unreality," or when it can't handle a set of facts presented to it.

These standards for adequacy arise from Pepper's opinion about the cognitive status of the subject matter of metaphysics. It has just been demonstrated that having a well-developed opinion on the cognitive status of metaphysics is tantamount to having a metaphysics or categorial scheme. Any complete world hypothesis, since it is unlimited in scope, must include an interpretation of the cognitive status of metaphysics. Part of the question of the nature of metaphysics is the question of a decision procedure for accepting or rejecting metaphysical "theories." Every well-developed world hypothesis advocates a different decision procedure for choosing between metaphysical systems. Why should Pepper's categorial system be any better than that proposed by any other refined world theory? Pepper's personal metaphysics has remained tacit throughout his criticism of world hypotheses. It is submitted that the outcome of his analysis of metaphysics is a reflection of his own metaphysical position.

Suppose Pepper replies that his "adequacy" decision procedure is a result of looking objectively at the facts of just how things are cognitively in the discipline of metaphysics. In rebuttal it is submitted

that the question of what the "facts" are is exactly what metaphysics is all about. There is no general agreement among metaphysicians about what the facts are. Part of these facts about which there is no agreement are the facts about decision procedures for metaphysical "theories."

The decision of greatest significance in metaphysics is an individual one. An individual who becomes aware of competing metaphysical systems makes the final decision. He chooses his categorial system based on no publically authenticated and generally accepted decision procedure. The reasons for an individual's choice are many and no doubt varied. It is possible that there may be no overarching reasons common to all who consciously make such a choice. However, one possible area for further exploration of reasons for such choices would be one's cultural background.[22]

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[22] Executing such a proposal is beyond the limit of this essay. It is mentioned because the relatively new discipline of anthropology shows promise for some interesting work in this matter.

CHAPTER V

CONCLUSION

Nowhere in the preceding discussions has there appeared an outline of Pepper's general argument in support of his approach to metaphysics. That will now be provided. His starting point is the recognition of metaphysical systems as objects existing in the world.[1] They are distinguishable from other kinds of systematic arrangements of knowledge by the unrestricted way in which they attempt to deal with all of experience, rather than covering just a portion of experience. He desires to study unlimited systems of metaphysics objectively and empirically. He thinks that we all believe in and use metaphysical systems, although we may not be directly aware of them. It takes some effort to look at them from a distance. Pepper proposes to treat them as objects in their own right; his study of them is his attempt to describe each and compare them with one another, while accounting for their nature, their origin, and their development.

Before undertaking that task, Pepper thinks that he must first dispose of two cognitive attitudes towards metaphysics--attitudes which he believes are unfounded.[2] These two are what he calls dogmatism and utter skepticism. After examining these and finding nothing of

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[1] WH, p. 1-2.

[2] WH, p. 3, cf. RTM, p. 365.

cognitive value in each, he attempts to steer a more moderate middle course between these two extremes. He calls this approach "partial skepticism" or "the method of hypothesis." Dogmatism decrees that there is only one correct system of metaphysics, excluding all others from worth. Utter skepticism holds that none are correct or worthwhile.

Pepper's middle course involves first taking the attitude that all metaphysical systems are hypothetical in the sense that we cannot be absolutely sure of the truth of any one, neither can we be certain of the falsity or uselessness of all of them. This much is implied by the rejection of dogmatism and utter skepticism. He does believe that metaphysical systems form a sort of hierarchy, some having but little value, some of middling worth, some being the best available. He further believes that he can discover which systems are more valuable and which are less worthwhile. Because of these opinions, he prefers to refer to unrestricted metaphysical systems as "world hypotheses".

Professor Pepper rejects the attitudes involved in dogmatism and utter skepticism, and he rejects the methods they foster. The only method left for employment in metaphysics is the "method of hypothesis."[3] His opinion about what constitutes the hypothetical technique has been set forth in some detail in the previous chapters. Generally, understanding his method of hypothesis involves: recognizing that the unrestricted hypotheses of metaphysics at first deal with uncriticized evidence (dubitanda); grasping the techniques of multiplicative and structural corroboration which are the means used for organizing dubitanda into world hypotheses; understanding (through the root metaphor

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[3] v. MM, pp. 255-257.

hypothesis) how world hypotheses originate, how they develop, how they may be used. With this outline of Pepper's general argument in mind, the task now is to review briefly the detailed criticisms of the previous chapters and form some general judgements about Pepper's approach.

Mr. Pepper is basically correct in his characterization of dubitanda as the material with which metaphysical systems deal. Put in other terms, human experience is the field which categorial schemes interpret. The best categorial systems at least make an effort to interpret every kind of experience known to man. However, when one commences to state what is the nature of the field of human experience, one is applying some set of metaphysical categories. These are necessary as interpretative tools in terms of which the description or interpretation will be made.

His analysis of dogmatism does considerably less than Pepper wanted it to do. It falls short of his aspirations as pointed out in the discussion above. Albeit, Pepper does mount enough evidence to give credence to his objection that one should not put complete confidence in any one metaphysical scheme. One could even say that an attitude of tolerance toward competing metaphysical views is a justified result of Pepper's analysis of dogmatism. His examination of skepticism is useful in a similar way. It successfully shows that one is justified in believing that we can possess some kind of knowledge, even though we sometimes experience cognitive disappointments.

The examination of the types of corroboration and the nature of hypotheses suggests that the best approach would be to admit that metaphysics and science operate on different logical levels and with differing techniques. One should not attempt to make metaphysics

scientific in the same sense that chemistry or physics is scientific. Metaphysics can be hypothetical only in the sense that a metaphysical system can be tentatively proposed--but there the similarity between "world hypotheses" and scientific hypotheses ends.

Although the above discussion of the root metaphor theory has indicated disapproval, that theory does contain many worthwhile suggestions. The unuseful portions of the root metaphor theory are mostly a result of some of the wrong turns Pepper made in discussing dogmatism, types of corroboration, and the nature of hypotheses. For example, the four best root metaphors and their categories which Pepper has enumerated function in a manner similar to the absolute presupposition or categorial principle advocated by this writer (pp. 52 above). The part played by analogy in developing categorial schemes has received useful attention in Pepper's work. Pepper has done a service for logic by pointing out that it, like any other part of human experience, is open to interpretation by categorial systems. In that sense each metaphysical system does have its own "logic."

Final Comments

It is difficult to envision how it would be possible for anyone to discuss critically the subject matter of metaphysics without holding some metaphysical presuppositions. Whenever one initiates a discussion in philosophy, some kind of categorial presupposition will be present. The only way one may avoid using categorial presuppositions in a philosophical discussion is (as Pepper has suggested) to remain silent. Metaphysical neutrality in philosophical work appears to be impossible. Even outside the realm of philosophy one can find these presuppositions

in human activities of many varieties. The discipline of metaphysics is the study of these categorial presuppositions. A categorial scheme or system of metaphysics is thus a tool for conceptual interpretation of experience.[4] Metaphysics is not involved in getting knowledge of some supersensible abode of angelic forms or an unseen collection of microcosmic monads. Metaphysics is the examination of how to interpret, conceptually and rationally, that which we do see, hear, touch, taste, smell, remember, dream. Whenever reason itself is the subject of metaphysical inquiry, the result is a set of categorial principles which form the basis of an epistemology.

There is no generally accepted means for making choices between competing metaphysical systems. Neither is there an all-encompassing system of metaphysics which judges all the other systems. In general, it seems one acquires the system he uses either by cultural transmission or by making choices from among the systems with which he has become acquainted. The former alternative usually does not involve a conscious choice. In this case, one accumulates a categorial system through acculturation which is a slow process. Acquiring a categorial system through one's culture happens to almost everyone.

The second general method of acquisition incorporates conscious study of various proposed schemes of metaphysics culminating in one's choice of a "best" system. This may not be a single final choice, but

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[4] cf. Stephen C. Pepper, "Three Lectures on Contemporary Philosophy," unpublished lectures delivered at Notre Dame University by Mr. Pepper in February of 1967, copy provided by Mr. Pepper's permission. The first lecture in this series is entitled "The Search for Comprehension, or World Hypotheses." In this lecture Pepper develops the idea that world hypotheses are the instruments by which one comprehends experience. This seems to be equivalent to the position just stated above.

may involve continued choices as study proceeds and more alternatives come to view. Study of this kind is associated with studying the history of metaphysics, discussing metaphysics, and with other activities involved in the general traditional discipline of philosophy. The standards by which one chooses (and continues to choose) between competing categorial schemes remain an individual and quite variable affair. Not a great deal has yet been said by philosophers about that problem. About the most one can say at this point is that such choices are very personal and not subject to widely recognized or accepted standards of any kind. One philosopher can't force his view on another by appealing to some ultimate category of his own view if the question under discussion concerns the "correct" categories. All one can do is to exhibit his position as clearly as he can; listen politely while his opponent does the same; then try to engage in a penetrating interchange which usually mutually expands each party's outlook.[5] No one can prove to the other that a specific choice between competing categories is the only appropriate one. Persuasion and argumentation may be used, but the crucial choice is never proved correct or wrong.

One problem Pepper has raised is the question of how to regard competing categorial systems. Should they be placed in some kind of heirarchy, or should they be regarded as roughly equal? It has been suggested that interpreting rationally and critically the subject matter of metaphysics requires categorial principles or metaphysical presuppositions. In regard to the question raised here, then, the answer

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[5] Cf. Stephen C. Pepper, "A Contextualistic Theory of Possibility," University of California Publications in Philosophy, XVII (1934), p. 183.

is that whether one regards competing metaphysical systems as equal or graduated depends on one's personal metaphysical position--a position arrived at by some initial and private choice. The best one can do is to give his opinion on the subject matter of metaphysics as clearly as possible, exhibiting as explicitly as he can the categorial base of his view.

BIBLIOGRAPHY

Aiken, Henry David. "The Basis of Criticism in the Arts." The Journal of Philosophy, XLIII (1946), 441-6.

Berenda, C. W. "Comments on 'Metaphysics as Hypothesis'." The Journal of Philosophy, XLV (1948), 103-5.

Burtt, E. A. "The Status of 'World Hypotheses'." The Philosophical Review, LII (1943) 590-601.

Carney, James D. and Scheer, Richard K. Fundamentals of Logic. New York: MacMillan, 1964.

Copi, Irving M. Introduction to Logic, 2nd ed. New York: MacMillan, 1961.

_____. Symbolic Logic, 2nd ed. New York: MacMillan, 1965.

Drennen, D. A. A Modern Introduction to Metaphysics. Glencoe: The Free Press, 1963.

Gotshalk, D. W. Metaphysics in Modern Times. Chicago: University of Chicago Press, 1940.

Hall, Everett W. "Of What Use is Metaphysics." The Journal of Philosophy, XXXIII (1936), 236-245.

Hill, Thomas English. Contemporary Theories of Knowledge. New York: Ronald Press, 1961.

Hoekstra, Raymond. "Pepper's World Hypotheses." The Journal of Philosophy, XLII (1945), 85-101.

Hofstader, Albert. "A Conception of Empirical Metaphysics." The Journal of Philosophy, XLV (1948), 421-35.

Jarrett, James L. and McMurrin, Sterling M. Contemporary Philosophy. New York: Holt, 1954.

Lamprecht, Sterling. "Metaphysics: Its Function, Consequences, and Criteria." The Journal of Philosophy, XLIII (1946), 393-401.

Lee, H. N. "Metaphysics as Hypothesis." The Journal of Philosophy, XLIV (1947), 344-352.

Lewis, Clarence Irving. "Metaphysical Meaning." Metaphysics, Charles A. Baylis, New York: MacMillan, 1965.

_____. Mind and the World Order. New York: Dover, 1929.

Loewenberg, Jacob. "Problematic Realism." Contemporary American Philosophy, Vol. II, Eds. G. P. Adams and W. P. Montague. New York: Russell and Russell, 1962.

_____. Reason and the Nature of Things. LaSalle: Open Court, 1959.

Lowe, Victor. "Empirical Method in Metaphysics." The Journal of Philosophy, XLIV (1947), 225-33.

Munitz, Milton K. The Mystery of Existence. New York: Appleton-Century-Crofts, 1965.

Parker, DeWitt H. "World Hypotheses." The Journal of Philosophy, XXXIX (1942), 527-30.

Pears, D. F., ed. The Nature of Metaphysics. London: MacMillan, 1962.

Pepper, Stephen Coburn. "The Argument From Similarity." The Philosophical Review, XXXVI (1927), 572-81.

_____. The Basis of Criticism in the Arts. Cambridge: Harvard University Press, 1963.

_____. "Categories." University of California Publications in Philosophy, XIII (1931), 73-98.

_____. "A Contextualistic Theory of Possibility." University of California Publications in Philosophy, XVII (1934), 177-198.

_____. "A Criticism of a Postivistic Theory of Mind." University of California Publications in Philosophy, XIX (1936), 209-232.

_____. "A Convergence Theory of Similarity." The Philosophical Review, XLVI (1932), 596-608.

_____. "Definition." University of California Publications in Philosophy, XXI (1939), 97-122.

_____. "The Descriptive Definition." The Journal of Philosophy, XLIII (1946), 29-36.

_____. "Emergence." The Journal of Philosophy, XXII (1925), 241-5.

_____. "How to Look for Causality--An Example of Philosophic Method." University of California Publications in Philosophy, XV (1932), 177-204.

_____. "The Issue Over the Facts." University of California Publications in Philosophy, XXV (1950), 121-139.

_____. "Metaphysical Method." The Philosophical Review, LII (1943), 252-69.

_____. "Middle-sized Facts." University of California Publications in Philosophy, XIV (1932), 3-28.

_____. "Misconceptions Regarding Behaviorism." The Journal of Philosophy, XX (1923), 242-4.

_____. "The Nature of Scientific Matter." The Journal of Philosophy, XIV (1917), 483-91.

_____. "On the Cognitive Value of World Hypotheses." The Journal of Philosophy, XXXIII (1936), 575-7.

_____. "The Order of Time." University of California Publications in Philosophy, XVIII (1935), 1-20.

_____. "Philosophy and Metaphor." The Journal of Philosophy, XXV (1928), 130-2.

_____. "A Proposal for a World Hypothesis." The Monist, XLVII (1963), 267-86.

_____. "The Quest for Ignorance or the Reasonable Limits of Skepticism." The Philosophical Review, XLV (1936), 126-43.

_____. "Reply to Professor Hoekstra." The Journal of Philosophy, XLII (1945), 101-8.

_____. "The Root Metaphor Theory of Metaphysics." The Journal of Philosophy, XXXII (1935), 365-74.

_____. "The Status of 'World Hypotheses': A Rejoinder." The Philosophical Review, LII (1943), 602-604.

_____. "Three Lectures on Contemporary Philosophy." Unpublished lectures given at Notre Dame University in February 1967.

_____. "Transcendence." University of California Publications in Philosophy, VIII (1926), 51-69.

_____. "Truth by Continuity." University of California Publications in Philosophy, X (1928), 27-59.

_____. "What are Categories For." The Journal of Philosophy, XLIV (1947), 546-56.

_____. World Hypotheses. Berkeley: University of California Press, 1942.

Randall, John Herman, Jr. "Metaphysics: Its Function, Consequences, and Criteria." The Journal of Philosophy, XLIII (1946), 401-12.

Rescher, Nicholas. Introduction to Logic. New York: St. Martin's Press, 1964.

Stevenson, Charles Leslie. "Persuasive Definitions." Mind, XLVII (1938), 331-50.

Thompson, Manley. "Metaphysics." Philosophy. The Princeton Studies, Englewood Cliffs: Prentice-Hall, 1964.

Veatch, Henry. "Matrix, Matter and Method in Metaphysics." The Review of Metaphysics, XIV (1961), 581-600.

Waismann, Friedrich. "How I See Philosophy." Contemporary British Philosophy, ed. H. D. Lewis. London: Unwin, 1961.

Walsh, W. H. Metaphysics. London: Hutchinson, 1963.

Whitehead, Alfred North. Process and Reality. New York: MacMillan, 1936.

Williams, B. A. O. "Metaphysical Arguments." Metaphysics, Charles A. Baylis, ed., New York: MacMillan, 1965.

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