1976

Perception and Evidence

Donald H. Wacome
University of Rhode Island

Follow this and additional works at: <https://digitalcommons.uri.edu/theses>

Recommended Citation

Wacome, Donald H., "Perception and Evidence" (1976). *Open Access Master's Theses*. Paper 1555.
<https://digitalcommons.uri.edu/theses/1555>

This Thesis is brought to you for free and open access by DigitalCommons@URI. It has been accepted for inclusion in Open Access Master's Theses by an authorized administrator of DigitalCommons@URI. For more information, please contact digitalcommons-group@uri.edu.

PERCEPTION AND EVIDENCE

BY

DONALD H. WACOME

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE

MASTER OF ARTS

IN

PHILOSOPHY

UNIVERSITY OF RHODE ISLAND

1976

THESIS ABSTRACT

The question as to whether empirical knowledge has any foundations and, if it does, just what those foundations might be, has long been an important epistemological question. The problem with which I am concerned is that of taking primitive sensory experience as the ground of empirical knowledge. I consider three attempts on the part of 20th century British and American analytical philosophers to substantiate our ordinary knowledge claims about an extra-mental, empirical reality. The first of these is the sense-datum approach to the problem, in which by using the act-object analysis of simple sensations, the independent status of things sensed was thought to be established. But I point out that the sense-datum theorists do not prove the point they set out to prove, but only succeed in illuminating the fundamental assumptions of Realism in opposition to those of Idealism. In opposition to the sense-datum Realists, I advance the adverbial analysis of sensation, and in so doing open the way to a less direct but more credible Realism.

The second part considers the protocol-statement theories, according to which empirical knowledge is (or corresponds to) a truth-functional syntactical system of propositions ultimately grounded on a class of atomic proposi-

tions: the protocol statements. It becomes apparent that the protocol-statement theories must choose between subjectivism and corrigibility. The relation of empirical knowledge claims to subjective sense experiences is problematic.

Finally, I relate the attempt made to rework the phenomenalist and physicalist epistemic systems of the Logical Positivists along the lines of warranting relations rather than implicative relations. Thus sensory experience comes to have an evidence-conferring relation to empirical knowledge claims. But that relation is a complex one which must be determined in the light of all our relevant information; particularly that regarding the causal conditions prevailing in our perceptual environment.

ACKNOWLEDGEMENT

I wish to acknowledge Dave Freeman, my major professor and Fritz Wenisch, for their aid in the preparation of this thesis. Also I extend my thanks to Dr. Russo and Dr. Bailey for serving on my committee. To my wife, Karen, I owe the typing of the manuscript and a wealth of less tangible, but more valuable, help.

TABLE OF CONTENTS

THESIS ABSTRACT	iii
ACKNOWLEDGEMENT	v
Chapter	
I. THE SENSE-DATUM THEORIES.	1
II. THE PROTOCOL-STATEMENT THEORIES	34
III. THE WARRANT-STATEMENT ANALYSIS.	61
.	
SELECTED BIBLIOGRAPHY	90

CHAPTER I

THE SENSE-DATUM THEORIES

The discussion of the role of sensation as a means of obtaining knowledge about the physical world which arose among British and American philosophers early in the twentieth century is but a part of a much older and wider discussion about the relation of mind to other forms of reality which has characterized philosophical dialogue from its inception. In this paper I isolate and analyze the central arguments about the role of sensory perception in giving evidence for beliefs about the "external world" propounded by contemporary philosophers in the analytical tradition. The areas treated fall into three groups: (1) The sense-datum theories; (2) The protocol sentence theories; and (3) The warrant statement theories. My first step in analyzing the evidential status of perception is an investigation of the sense-datum theories as they were introduced in the early decades of this century.

The birth of analytical philosophy, and with it Realism in the English-speaking world is usually (though simplistically) identified with the rejection of Idealism by G. E. Moore and Bertrand Russell. Standing for the virtues of the "scientific outlook" (in the case of Russell) or for the "common-sense" view of the world (in Moore's

case) over against what they took to be the speculative excesses of Idealism, these philosophers were eager to prove that human beings are sometimes directly aware of entities existing neither in their own minds nor in some Absolute Mind.

However, in answering the question "What are the objects of perception?", Moore and Russell heeded the significance of Idealism's fundamental, though overemphasized, insight that the known is structured according to the knower's conceptual frame. This revival of Realism was of a rather limited and qualified variety, even in the case of the so-called Naive Realists. Indeed, the Realism of the sense-datum theorists reduces the world of things that can be directly known in perception to its minimal form. The sense-datum theorists accommodated the facts of the active role played by the mind in producing the objects of knowledge by clearly distinguishing two radically different ways of knowing.

Russell, in his The Problems of Philosophy¹, gives the most well-known account of this distinction by deliniating "knowledge by acquaintance" and "knowledge by description." One knows something by acquaintance when he knows it without any process of inference of any knowledge of truths. On the other hand, things are known by description when they are taken to stand in particular relations to those

¹Betrand Russell, The Problems of Philosophy (London: Oxford Univ. Press, 1912), pp. 46-59.

entities which are known by acquaintance. According to Russell, there are things which are known by acquaintance, and some of these are the immediate objects of sense experience, which he calls sense-data. Those things which are known solely in terms of their relations to sense-data are those things we would normally call physical objects. In an early article Russell pointed out the difference between those things with which we are acquainted (here he calls these "presentations") and those things we only know about since they can only be "reached" by "denoting phrases."² Russell's demarcation of knowledge which is given and knowledge which is influenced, ordered, or structured by the mind also appears when he defines sense-data as the "non-mnemonic elements in a sensation,"³ and as that which is believed on its own account, without the support of outside evidence--"hard data" which is given rather than derived.⁴

G. E. Moore sought a similar bifurcation of knowledge when he described sense-data as that class of objects which we know by "direct apprehension." He writes:

. . . there is a most important difference between the relation I have to a sensible when I am actually seeing or hearing it and any relation (for there may be several) which I may have to the same sensible when I am only thinking of

²Bertrand Russell, "On Denoting," Mind, 14 (1905), pp. 479-98. reprinted in R. C. Marsh, ed. Logic and Knowledge, p.41

³Bertrand Russell, The Analysis of Mind(London: George Allen & Unwin, 1921), p. 189.

⁴Bertrand Russell, On Our Knowledge of the External World (London: George Allen & Unwin, 1914), p. 76.

or remembering it. And I want to express this difference by using a particular term for the former . . . direct apprehension.⁵

Later Moore maintained the same distinction, referring to that which is given as opposed to what is only "worked up by the mind."⁶

Clearly, the early Moore and Russell took the fact that people know certain entities in a unique way, that of being given to the knower, as compelling evidence for the Realist position. The supposition, that if something is merely given to or presented to the mind it cannot at the same time be the product of the mind's formative activity, seems to be self-evident. That which is given in sensation presents a "facticity" for the mind which senses. T. P. Nunn, also a founder of the New Realism, wrote that (even in the case of a pain, generally considered the most "subjective" of sensations) the sensation "may present itself as a thing to be reckoned with as much as St. Paul's Cathedral . . . the pain is like St. Paul's, something outside my mind, with which my mind may come into various relations."⁷ There is, in this immediate contact of mind and external reality, "no room" for the mind to doubt, do away with, change, or

⁵G. E. Moore, "The Status of Sense-Data," Philosophical Studies (London: Routledge & Kegan Paul, 1922), p.173.

⁶G. E. Moore, "Are the Materials of Sense Affections of the Mind?", Proceedings of the Aristotelian Society, 17 (1916-17), p. 419.

⁷T. P. Nunn, "Are Secondary Qualities Independent of Perception?" PAS, 10 (1909-10), p. 195.

in any way manipulate that which is given.

It is plausible to interpret the emphasis placed on the givenness of the sense-datum as an attempt to restore the immediately apprehended to a position it had lost during Absolute Idealism's long fascination with the active role of the mind in synthesizing knowledge. This interpretation, however, stands in need of qualification. C. I. Lewis, in his Mind and the World Order, writes:

Post-Kantian Idealism . . . may seem to contend for the identification of knowledge with what the activity of thought alone produces. But idealism can hardly mean to deny that the fact of my seeing at this moment a sheet of white paper instead of a green tree is a datum which it is beyond the power of my thought to alter. It can hardly deny the given in every sense.

There is considerable evidence in the Idealist literature that Lewis' claim is correct. We find T. H. Green, in his Prolegomena to Ethics, acknowledging the "derivation of knowledge from an experience of unalterably related phenomena,"⁹ and F. H. Bradley, in Appearance and Reality, quite willing to accept the "presentations" espoused by the Phenomenalists he opposes.¹⁰

Lewis continues: "the idealist may insist that there is no (real) object without the creative activity of mind

⁸C. I. Lewis, Mind and the World Order (New York: Scribner's, 1929; reprint ed., New York: Dover, 1956), p. 45.

⁹T. H. Green, Prolegomena to Ethics (Oxford: Clarendon, 1906), p. 17.

¹⁰F. H. Bradley, Appearance and Reality, 2d ed., (London: Oxford Univ. Press, 1897), pp. 106-7.

without in the least meaning to deny that there is a datum prior to its being posited as real."¹¹ Green completes the sentence I quoted above this way: ". . . unalterably related phenomena related in some consciousness." The Idealists, it seems, did not deny the given element in perception, but insisted that, in the broadest sense, it is not independent of mind.

It is not a refusal to admit the given but a view on the status of relations which constitutes the core of the Idealist doctrine; a doctrine the Realist, if he is to argue successfully, must refute. That which was problematic for the British Idealists was the status of the unrelated. Different approaches to this problem led the Idealists to radically diverse conclusions. Green, on the basis of the dogma that the existence of relations implies the existence of a relating mind, granted that there is a given element in perception, but maintained that this, even in its most primitive form, is a relation and thus mind-constituted. That which is not related is thoroughly unintelligible and unreal. Bradley, on the other hand, also began with the ideality of relations, but added the thesis that the concept of a relation is self-contradictory. Thus that which is thought, i.e., related, is mere appearance while the real is the unitary experience prior to its division into the subject-object relational structure by the abstracting mind. These otherwise disparate views are at one in affirm-

¹¹C. I. Lewis, Mind and the World Order, p. 46.

ing the separation of relations from that which is independent of mind.

If we assume that on the sense-datum theory the primitive datum of sense contains related elements (e.g., a red patch consists of the elements "red-rectangle-here-now"), then the force of the Realist argument must not lie with the fact of there being a given per se, but in there being a given manifold (of simples in relation) which is not mind-dependent. The Idealists held, in one way or another, the first of these points, but denied the second. The doctrine that relations are not "real," but exist only in a relating mind, appears to have been powerful enough to overcome the common-sense belief, mentioned above, that the given is independent of consciousness. Although it is not my purpose here to trace this belief to its origins, I want to point out its implications.

Green considers the everyday phenomena of relations, in which he finds the "mystery" of "the existence of many in one."¹² Every relation, he says, is "the unity of the manifold."¹³ "The one relation is a unity of many things."¹⁴ There must be, he concludes, "something other than the manifold things themselves, which contains them without effacing their severality."¹⁵ Particular entities, although distinct, are brought together by a mind which compares or relates them; that is the only conceivable ground for the

¹²T. H. Green, Prolegomena to Ethics, pp. 33-5.

¹³Ibid. ¹⁴Ibid. ¹⁵Ibid.

existence of relations. But this inference from the simultaneous unity and diversity inherent in relations to their ideality is too facile. The contention seems to be based upon an equivocation of two senses of "relation": what we may call the mentalistic sense, in which we may say that an individual mind relates things to one another or discovers relations in the world, and a "real" sense, according to which we can attribute relations to entities outside any mind. That the idea of an unknown relation is not obviously self-contradictory is clear to me at the present time, but I do not intend to argue this point, but only wish to point out that the real nature of relations is the fundamental tenet of the Realist position.

A difficulty that comes into view on the Idealist position is apparent in the following remark from Kant's Critique of Pure Reason: "all combination--be we conscious of it or not, be it a combination of the manifold in intuition, empirical or non-empirical, or of various concepts--is an act of the understanding."¹⁶ It is apparent that Kant's proviso indicates that one may have something given to him which seems other than it is. Does it make any sort of sense to say that the given is other than it seems? Isn't it true that if we restrict ourselves to that which is actually given in sensation that which is really given will coincide with that which seems to be given? H. H. Price

¹⁶Immanuel Kant, Critique of Pure Reason, trans. Norman Kemp Smith (New York: St. Martin's Press, 1965), p. 151.

a proponent of the sense-datum theory, argues that any such view as Kant's is nonsense. He writes:

We might say that the notion of seeming has no application to the given; and that by the very definitions of 'seeming' and of 'given'. When A seems to be B, this really means that some mind unreflectively believes A to be B, or as we say 'takes' it to be B. Now if so, there must be some evidence upon which this taking is (however hastily and unreflectively) based. Thus if it seems to me to be raining, the evidence is that I hear a pitter-patter sound. This does not seem to be a pitter-patter sound; it is one. And only because there is this sound can it seem to have a certain cause, viz. rain falling on the roof. And though the rain which there seems to be may not after all exist (for it may be a shower of gravel or peas) the sound nonetheless exists, and does have a pitter-patter character. In short, the Given is by definition that which by being itself actual and intuitively apprehended, makes it possible for something else to seem to exist or to have a certain quality.¹⁷

Accepting Price's position that a given sense-datum cannot be other than it is, the Idealist belief that a datum may be related by the mind but appear related in reality seems to be nonsensical. But a clarification is in order. We must distinguish two different types of false appearances. The first, of which Price's case is an example, consists of cases in which a datum is thought to have some property which it does not in fact have. At face value, Price's argument has shown that such appearances cannot deviate from reality. The second kind of false appearance, which the Idealist will say is possible, is that of a datum appearing to have a particular origin when in fact it has some other origin. The simple datum of sense,

¹⁷H. H. Price, Perception, 2d ed., (London: Methuen, 1954), p. 5.

as a manifold, which appears to be real but is actually ideal, belongs to this variety of false appearances. Since I believe that Price may be wrong on both interpretations, I will not here press the argument. In the second section of the thesis I consider the question of the incorrigibility of simple sense perceptions.

In order to explicate the force of the argument that attempts to show that the nature of sense-data evidences a real world, a fundamental terminological clarification is in order. There is an equivocation, due to fundamentally different approaches to the problem of the mind-reality relation, which lies beneath the surface of the "givenness argument" for Realism. This difference between the two points of view becomes salient when we ask what each side of the debate means by "consciousness." The Realist equates that which is given to the mind with that which is given to consciousness. So for him "mind" and "consciousness" denote the same entity as far as being given to is concerned: the unconscious mind is not a receptacle for data from the outside. That which is given to consciousness or to the mind or to the knowing subject is, for the Realist, all one.

The Idealist, on the other hand, differentiates that which is given to consciousness from that which is given to the mind. Thus he can admit a given element in knowledge and simultaneously hold that this given element is the work of the mind and not real but ideal. A broad schematization of the two epistemologies will make this clear. For Realism, that which is given to the mind, i.e. immediately apprehended

by consciousness, is the sense-datum, a group of qualities standing in a determinate relation. The sense-datum constitutes an objective, extra-mental, real entity. The mind then relates the sense-data to physical objects which are known by means of them in some derivative way. The Idealist schema roughly corresponds to the sense-datum Realism in so far as the mind structures the primitive sense-data so as to produce ideas of physical objects. But, presupposing the ideality of relations, the Idealist takes sense-data, although given to the consciousness of the individual, to be previously related in another part of the individual mind, in one variety or another of an Absolute Mind, or related by some objective system of concepts. So the non-mental world remains unintelligible for the Idealist and is usually dispensed with in his ontologies.

The givenness of the sense-datum does not unambiguously provide evidence for its extra-mental reality. But there are other Realist arguments. The Realists' attempt to prove, on the basis of the intentional character of perception the independence of sense-data, makes up the second major argument against the Idealists.

While Moore still belonged to the Idealist camp he had already shown his concern for the objectivity and independence of the objects of thought from the individual mind over against the Empiricist doctrines that the objects of thought are merely ideas in the individual mind. In his

"The Nature of Judgement"¹⁸ Moore takes Bradley to task for not clearly maintaining the distinction between ideas as mental states (Vorstellung) and ideas as "universal meanings" or concepts (Begriff).

The argument begins in earnest with Moore's "The Refutation of Idealism."¹⁹ Here introspection of the nature of perceptual consciousness itself is taken as providing evidence for the extra-mental status of the objects of perception. Against the doctrine that, for the objects of perception, esse is percipi, Moore writes that the Idealist fails to see that subject and object are distinct, that they are two, at all.²⁰ He writes of the Idealist, that:

. . . when he thinks of 'yellow' and when he thinks of the sensation of yellow he fails to see that there is anything in the later which is not in the former. This being so, to deny that yellow can ever be apart from the sensation of yellow is merely to deny that yellow can be other than it is; since yellow and the sensation of yellow are absolutely identical.²¹

The esse is percipi doctrine is only a tautology if 'x' and the sensation of 'x' are identical. But if it is not true that, in perception, subject and object are identical, then the applicability of esse is percipi to cases of sensation is a matter of fact and open to empirical verification.

We must recognize that, for example;

¹⁸G. E. Moore, "On The Nature of Judgement," Mind, 8 (1899), pp. 176-93.

¹⁹G. E. Moore, "The Refutation of Idealism," Philosophical Studies (London: Routledge & Kegan Paul, 1922) pp. 1-30.

²⁰Ibid., p. 13.

²¹Ibid.

. . . the sensation of blue differs from that of green. But it is plain that if both are sensations they also have some point in common . . . I will call the common element (1) 'consciousness', in respect of which all sensations are alike; and (2) something else, in respect of which one sensation differs from another. It will be convenient if I may be allowed to call this second term the 'object' of the sensation.

Thus "blue is one object of sensation, and green is another, and consciousness, which both sensations have in common, is different from either." Moore points out that "sometimes the sensation of blue exists in my mind and sometimes it does not. . . if one tells us that to say "blue exists" is the same thing as to say that "both blue and consciousness exist" he makes a mistake." To identify any object of sensation with that sensation is to identify a part either with the whole of which it is a part or else with the other part of the same whole.²² On the basis of what it seems very likely we are all introspectively aware of in our own sensations, and on Moore's analysis of the concepts we ordinarily apply to those sensations, the a priori ground for (subjective) Idealism is undermined. It is at the very least conceivable that the objects of sensation exist without being sensed.

As a Realist, Moore of course believes that the independence of the objects of sensation, of the sense-data, is not only conceivable but very often the case. He presents his most lucid argument for this belief in a later article, "Are

²²Ibid., pp. 17-18.

the Materials of Sense Affections of the Mind?"²³ This argument begins with Moore stating that there is a certain class of things which stand in a particular relation to the mind such that those things only exist when they stand in that relation to the mind. By way of example he writes "I think I do know . . . with regard to an act of attention of mine, which did exist, not merely that it has ceased to be mine, but that it has ceased to exist. But he finds it extremely doubtful whether the objects of simple sensations have that particular relational property: "I am unable to discover that they all have to me any relation at all except that which is constituted by their being presented to me." With regard to that relation--what we earlier referred to as "givenness"--Moore says that this relation is not a relation which has the peculiar property in question.²⁴

The reason Moore gives for saying that things which are presented to the mind do not have the property of existing only when they are so presented is that:

. . . there seems to me to be a clear distinction between cases in which I do know with regard to a given sensation, which has been presented to me, not only that it has ceased to be presented to me, but also that it has ceased to exist, and cases in which I do know the former but do not know the latter.

As an example of a situation in which one knows that a sense-datum not only is no longer presented but no longer exists Moore cites the case of his watching a fire-work

²³G. E. Moore, "Are the Materials of Sense Affections of the Mind?", pp. 426-9.

²⁴Ibid., p. 427-8.

display during which he sees a spark, falling through the night sky, come into existence and then cease to exist.²⁵ Moore finds it incredible that acts of attention and the like, i.e., mental acts or states, be thought of as going about loose in the world, not occurring in someone's mind. But he found the non-mental existence of the immediate datum of sense something he was quite ready to accept. It is to Moore's credit, as opposed to some of the other sense-datum theorists, that he long entertained the belief that sense-data are identical with parts of the surfaces of physical objects, and thus refrained from straying inordinately far from the common-sense that was his starting point.

Russell used an argument similar to Moore's in support of the thesis that the intentional structure of perceptual consciousness evidences their real existence. He writes:

. . . there are two quite distinct things to be considered whenever an idea is before the mind. There is on the one hand the thing of which we are aware--say the colour of my table--and on the other hand the actual awareness itself, the mental act of apprehending the thing. The mental act is undoubtedly mental, but is there any reason to suppose that the thing apprehended is in any sense mental?²⁶

We find the most precise statement of the distinction on another part of the Realist front, in the writings of Franz Brentano. Against *esse* is *percipi* for sensation Brentano wrote:

As certain as it is that a color only appears to us when it is an object of our representation, it

²⁵Ibid. pp. 428-9.

²⁶Bertrand Russell, The Problems of Philosophy, p. 41.

is nevertheless not to be inferred from this that a color could not exist without being presented. Only if being presented were included as one factor in the color, just as a certain quality and intensity is included in it, would a color which is not presented signify a contradiction, since a whole without one of its parts is truly a contradiction. This, however, is obviously not the case.²⁷

As with Moore, Russell, and the other sense-datum theorists, Brentano's criticism of the *esse is percipi* thesis constitutes what has come to be known as the act-object analysis of sensory perceptions. The act-object analysis is of vital importance to the Realist, for unless we can distinguish the thing thought about from the mental act by which that thing is thought about, the mind is limited to a knowledge merely of its own states or contents.

The force of the act-object analysis of perception lies in its pointing out what appears to be a fundamental confusion, on the part of the Idealist, with two distinct senses of the term "in the mind." A univocal use of "in the mind," by which the term is intended to mean "being thought about," renders the Idealist contention that the objects of thought are in the mind a bare tautology. Or, if the term is used univocally to mean "actually existing in the mind." then the Idealist dogma is simply false. In the opinion of Moore and the early Russell the *esse is percipi* doctrine of the Absolute Idealists stood at much the same level as the inference of "Jones is a mental entity" from "Smith is keeping Jones in mind."

²⁷Franz Brentano, "The Distinction Between Mental and Physical Phenomena," trans. D. B. Terrell in Chisholm, ed. Realism and the Background of Phenomenology (Glencoe, Ill.: The Free Press, 1960). p.54.

I shall consider the act-object analysis of sensory perception in two ways; first, the reaction of the Idealists themselves to the argument, and then the attempted replacement of the analysis with another. The Idealist counter-arguments come in two varieties. The first of these is represented by C. A. Strong, who, beginning with cases whose subjectivity seemed to him to be certain, went on to attack the act-object analysis using such cases as a model on which to interpret the introspective data found by the Realists. Strong writes that, in the case of someone's having a pain, that pain is almost always attended by thoughts about the pain:

I rarely experience a pain without saying to myself, What a disagreeable feeling this is, and asking myself what I can do to remove it; or, at the very least, I dimly note its local relations to other parts of my body.²⁸

The pain is a mental fact before one transforms it into an object of thought, says Strong, thereby distinguishing a mental fact from those thoughts that always directly follow it into existence. He continues:

The suggestion I would offer is that, when we contrast a pain with our consciousness of it, the fact we refer to by the 'consciousness' is these supernumerary thoughts. We feel ourselves to be other than the pain, because we identify ourselves with the thoughts, and the thoughts are really and truly other than it.²⁹

What Moore takes to be the "transparent" and "difficult to

²⁸C. A. Strong, "Has Mr. Moore Refuted Idealism?" Mind 14 (1905) p. 175.

²⁹Ibid.

fix" element in a sensation, that is, the subject, mental act, or consciousness,³⁰ Strong maintains is not there at all. Moore's failure to clarify his concepts of "mind" and "consciousness" is again significant. Strong tells us that Moore is quite justified in insisting on a dualistic analysis of sensation. For the existence of the mental state is certainly distinct from the reflective intellectual consciousness by which we apprehend it. Yet Moore's failing is his inability to see that the existence of the mental state is by no means independent of consciousness in the sense of feeling.³¹

The Idealist response to Moore's "The Refutation of Idealism" continued in this vein. J. S. Mackenzie, a Scottish Idealist, went so far as to contend that the refutation of the esse is percipi doctrine positively advances the cause of what he calls "Objective Idealism." Mackenzie, in agreement with Moore, writes:

Certainly, pain, hunger, the colour yellow, a tree, a triangle. . . all contain something which is of the nature of an objective material set before our consciousness and it is³² something of which somebody else might be conscious.

Building on the distinction between the idea as fact and the idea as meaning, Mackenzie holds that that which is given in consciousness (the idea as fact) insofar as it is intelligible,

³⁰G. E. Moore, "The Refutation of Idealism" pp.24-5.

³¹Strong, "Has Mr. Moore Refuted Idealism?" pp. 188.

³²J. L. Mackenzie, "The New Realism and the Old Idealism", Mind 15 (1906): 315.

is referred to an objective system of ideas as meanings.³³ While the act-object analysis of sensation was acceptable to the Idealists as a critique of the theory that those things we perceived depend for their existence upon our consciousness of them, they did not find it an adequate disproof of the fundamental contention that reality is ultimately Ideal, whether they held the "ideas" to exist in an Absolute Mind or as components of an objective system independent of any consciousness, be it human or superhuman.

The strength of the Realist doctrine that the act-object analysis can be properly applied to simple sensations lies in their pointing out the intentional structure of perceptual consciousness. But in not fully elucidating it (as the Europeans did), the British Realists were led to insist that the intentional objects of sensations were not only objects of consciousness to be distinguished from that consciousness itself, but entirely existentially independent of anything mental and therefore real entities. This belief; that the sense-datum is not mind-dependent, coupled with the traditional arguments from perceptual illusion which prevented the identification of them with physical objects, led the Realists to a vast network of problems concerning the status of sense-data in the external physical world and their relations to ordinary physical objects. If we take Realism as the belief that we live in a world in which the primary objects are everyday physical

³³Ibid., p. 318.

objects, the sense-data theories led us far afield of Realism.

The early reaction of Idealism to the act-object analysis was a harbinger of a second, more radical objection to its thoroughgoing application to perception. I take the "adverbial" analysis of perception to undermine the sense-datum form of Realism and to provide the groundwork for a more workable Realism based upon the warranting character of perceptual reports. The adverbial analysis is developed to the greatest extent in the work of Curt Ducasse, but we find earlier references to it in the writings of the Idealist critics of the sense-datum theorists.

C. A. Strong, in the article I mentioned above, referred to the distinction between things thought about and "feelings," affections of the mind. These feelings, Strong says, are "qualities of consciousness."³⁴ What Moore objectified as sense-data Strong considers to be species of feeling. Thus, the two sentences: (1) Feeling is something unique and different from everything else; (2) Feeling of pain is entirely indistinguishable from pain--are not in conflict, given that pain is one mode of feeling, experience, or consciousness.³⁵ On Moore's act-object analysis of perception, these sentences are antinomous, since the thing felt is other than the feeling of it.

It was, as I have said, Curt Ducasse who gave this

³⁴C. A. Strong, "Has Mr. Moore Refuted Idealism?" p. 176.

³⁵Ibid., p. 182.

way of explicating the phenomenon of sensation its most precise formulation. Ducasse, in what has become a classic treatment of Moore's "the Refutation of Idealism", observes that the argument against *esse is percipi* depends on the thesis that existential independence is a function of the type of distinctness that obtains between e.g. the sensation of blue, and blue, the object of that sensation. If Moore's argument is to be shown valid what must be established is that the object of consciousness and the consciousness of the object are related in such a way that (like 'green' and 'sweet')³⁶ each is existentially free of the other (unlike 'green' and 'color').

As we have seen, Moore and the other proponents of the act-object analysis substantiate the claim of existential independence for the sense-datum by analyzing sensory consciousness as a variety of consciousness in general and thus partaking in its intentionality, or, as Moore himself calls it, its unique relation of being of something. Awareness, standing in this unique intentional relation to its object, is such that its object is always something other than itself and never mere "content"; otherwise no awareness, not even self-awareness, is possible.³⁷ From this fact Moore assumes that the relation between a sensation and the thing sensed must be one of existential independence if there is to be any awareness of the thing at all.

³⁶ Moore, "The Refutation of Idealism," p. 16.

³⁷ Ibid., pp. 24-5.

Ducasse attempts to undermine Moore's doctrine that the directedness of any mental act entails the existential independence of its object by arguing that although there is a particular relation between awareness and object such that these are in some sense logically distinct, there are different possibilities for what kind of logical distinctness this may be. We may, Ducasse says, distinguish two varieties of this relation: that in which the object is logically distinct and also existentially independent of the awareness of it; and that in which the object is only logically distinct and is existentially dependent upon the awareness.

The correlative of this distinction Ducasse finds in the linguistic distinction between the "connate accusative" and the "alien accusative".³⁸ For example, the term "act of striking" may take a connate accusative--"stroke", or it may take an alien accusative-- "a man". Ducasse further differentiates by adding qualifications of generality so as to give four possibilities for a term's accusatives:

"obstacle" is an alienly coordinate accusative of "jumping"
 "jump" is a connately coordinate accusative of "jumping"
 "fence" is an alienly subordinate accusative of "jumping"
 "leap" is a connately subordinate accusative of "jumping"³⁹

Having made these distinctions, Ducasse considers the relation of these subject-accusative relationships to the question of existential independence. An object denoted by the alien

³⁸C. J. Ducasse, "Moore's 'The Refutation of Idealism' ", in P. A. Schlipp, ed., 2d ed., The Philosophy of G. E. Moore (New York: Tudor, 1952), p. 228.

³⁹Ibid., pp. 229, 246.

accusative of a given activity, e.g., "obstacle" (alienly coordinate) or "fence" (alienly subordinate) of "jumping", may, on what seems a view in accord with ordinary usage, exist even when the activity is not taking place. On the other hand, the object denoted by the connate accusative of a term does depend for its existence upon the activity taking place. There is no jump (connate coordinate) but in the jumping and there is no leap (connate subordinate) unless there is also someone jumping.⁴⁰

Now if it should be the case--and Ducasse maintains that it is--that the accusative objects (cognita) of mental activities (cognizings) which are inherently intentional are connate accusatives, then it must be that those activities are existentially dependent upon their connate mental activities. "A cognitum connate with the cognizing thereof exists only in the cognizing."⁴¹ Presumably, one who wanted to defend Moore's attack on the *esse* is *pericipi* of sense-data could accept Ducasse's analysis while maintaining that "blue", "sweet", "bitter", and the like, are alien rather than connate accusatives of the mental acts by which they are apprehended. But on a consideration of the possibilities which Ducasse advances, it is difficult to see someone holding to that belief. Ducasse believes that the accusative object of a cognizing, which we would commonly call a sense-datum, can only be a connately subordinate cognitum. Giving as an example the variety of

⁴⁰Ibid., pp. 228-9.

⁴¹Ibid., p. 231.

mental activities we call "tasting", the following possibilities may be derived:

The alienly coordinate cognitum of "tasting" is "physical substance".

The connately coordinate cognitum of "tasting" is "taste".

The alienly subordinate cognitum of "tasting" is e.g. "quinine".

The connately subordinate cognitum of "tasting" is e.g. "bitter".⁴²

This analysis follows the accusative analysis of "jumping" and seems to be the only one which provides accusatives that would complete the sentence function "I am tasting (a) _____" so as to comply with normal, everyday use of the language.

If one tastes a physical object, such as a quantity of quinine, there is ordinarily no reason to doubt the existential independence of that physical object from the mental act of sensing. However, if someone "tastes a taste" or if he "tastes bitterness", it seems to be the case that what he experiences is in no way independent of the sense experience itself. So these "entities", the most likely candidates for the role of sense-data, are actually existentially dependent upon their being sensed.

Before going on to Ducasse's positive account of the status of sense-data we should ask whether this description of the objects of sensation has gone to the heart of Moore's attempt to refute the *esse is percipi* thesis for sense-data. To have done so, Ducasse must have shown that the connate cognita of sense experiences are not merely exist-

⁴²Ibid., p. 247.

entially dependent on their connate sense-experiences, but that they are necessarily so.

Moore, against the Idealists who held that "the object of experience is inconceivable apart from the subject,"⁴³ asserted that, for example, the two terms "yellow" and "the sensation of yellow" have distinct meanings, and therefore cannot logically be the same. According to Moore the facts "present themselves in a kind of antinomy: (1) Experience is something unique and different from everything else: (2) Experience of green is indistinguishable from green."⁴⁴ Idealists escape this contradiction by fleeing to the ruse of the "organic unity", in which two elements are supposedly distinct; yet nothing can be asserted about either element which cannot be truly asserted of the whole. The idea of the organic unity, grounded in the internality of relations, as espoused in Idealist logic, is the basis of the *esse is percipi* of sense-data. The question as to whether the Idealists are correct in asserting that known and knower constitute such an organic unity, and even whether such a state of affairs is possible, does not concern us here. The point, however, is that Moore saw this doctrine as the one according the Idealists the right to assert *esse is percipi* of the objects of sensation.

The question relevant to the application of the adverbial analysis to sensation and the ensuing admittance

⁴³Moore, "The Refutation of Idealism," p. 12.

⁴⁴Ibid., p. 14.

of the *esse is percipi* doctrine, is whether a sense-datum, which as Moore and Ducasse agree, is logically distinct from its cognizing, may consistently be said to exist independently of that cognizing. Ducasse, in his application of the model of the accusative case to sensation argues that such is not the case. Yet Ducasse does not appeal to the organic unity concept to support this contention. As we have seen, the differentiation of the accusative objects of verbs reveals the existential dependence of certain objects upon the connate activity. However, perhaps Ducasse's application of the accusative case model to cognition in general and specifically to sensations is an implicit denial of Moore's "perfectly unique and distinct relation"⁴⁵ between a sensation and its object. It appears that it is just this relation of awareness to object of awareness that falsifies the *esse is percipi* thesis for any sense-datum. Moore and the other Realist philosophers could contend that the intentional character of cognition uniquely characterizes mental activities as distinct from other kinds of activities, and thus attribute to the objects of a sense experience a peculiarly independent status. On this approach the attempt to consider sensation as one among many activities and thereby having objects as other activities do would appear to be fundamentally misguided. If the objects of sensation experiences have a unique status, the accusative case analysis cannot be hastily applied to them.

⁴⁵Ibid., p. 24.

Ducasse's positive response to the "Refutation of Idealism" is his analysis of sense-data as the connately subordinate cognita of certain mental activities. As subordinate cognita, these entities are specific instances of the generic connate activity. Thus the "adverbial analysis" appellation, according to which blue is not the object of a particular sensation in the sense that the object and the sensation are different things; rather blue is one variety of sensation. A blue-sensation is a species of the genus sensation. Thus, blue and the sensation of blue (or, as Moore would put it, consciousness of blue) are logically distinct entities in the commonly acknowledged sense that applies to the distinctness of a genus and one of its species. Further, blue and the sensation are existentially independent of one another in the sense that blue is one of many possible species of the genus sensation. On the adverbial analysis, one may say "I see bluely" rather than "I see blue", just as one may say, when he dances the specific kind of dance called a waltz, "I dance waltzily."⁴⁶ Yet, although it is in some sense true that we may describe our sense experiences adverbially, this is certainly a departure from ordinary use.

Although the thesis that, in having a sensation, we are sensing in a particular way rather than sensing some doubtful entity such as the sense-datum, is an attractive

⁴⁶Ducasse, "Introspection, Mental Acts, and Sensa", Mind 45 (1936): 190.

one, it does not on face value do justice to our ordinary sensory experience. In the great majority of cases in which one senses, he senses some object. Moore, in replying to Ducasse, comments that he "cannot see the sensible quality blue, without directly seeing something which has that quality--a blue patch, a blue speck, or a blue line, or a blue spot, etc."⁴⁷ Although Moore was inclined to believe that a sense-datum normally occurs as some object, it seems clear that, although they may be exceptionally rare, there are cases of sensation best described by the ordinary percipient in an adverbial manner. For example, should my entire visual field become blue, I would probably find "I sense blueely" the appropriate way to describe the experience. In the other cases of blue-awareness, such as seeing a blue spot, speck, or patch, one tends toward predicating that blue of something, even if it is only of a geometical shape, rather than using the unnatural adverbial locution. Indeed, even a "pure" blue-experience, such as that mentioned above in the case of a visual field becoming entirely blue, would most likely be described attributively (e.g., "I see a blue light") rather than adverbially, despite the fact that the adverbial description is more accurate. The fact that we normally do tend to describe our sense experiences on an act-object analysis may well result from the fact that our language is pragmatic-

⁴⁷G. E. Moore, "A Reply to My Critics," The Philosophy of G. E. Moore, 2d ed. (New York: Tudor, 1952), p. 659.

ally geared to the ordinary experience of relatively stable, property bearing physical things. From our experience of these ordinary physical objects we derive forms of discourse by which we describe all sensory experiences.

There is, I believe, a more significant reason why we do not ordinarily apply the adverbial locutions to experiences. The greatest part of our sensory experiences do not occur by themselves; that is, we only rarely have a particular sensation of, say, a color without also having other sensations. Most often, what happens is that the object of a sensation is no simple quality (e.g. red by itself) but at the very least a conjunction of qualities (e.g. red and rectangular and a certain size and position relative to other sense-data). J.O. Wisdom went further than this and pointed out that the sense-datum is always a particular--a "here" and "now": adverbs describing the existence of the particular sense-datum.⁴⁸ As I pointed out earlier, the given in perception is always a manifold of qualities. The reason why the adverbial mode of speech is not the one we ordinarily use is that an adverbial description of a specific sensation corresponds exactly to the adjectival description of the physical object perceived by, in, or with the mental state adverbially described. The objectivity of the things perceived is embedded in our perceptual language because it is just the experience of

⁴⁸J. O. Wisdom, "The Analysis of Sense-Data," Analysis 2 (1934-5): 78-9.

composite qualities that we call, correctly or not, perceiving real objects in the world external to us. There is no need to limit the adverbial analysis to what have traditionally been called "secondary qualities," as Ducasse seems to.⁴⁹ If we may sense "blueely" may we not also sense "squarely"? And if this is the case, it is a matter of pragmatics whether we say (1) "I sense blueely, squarely, here, now," and thus determine a particular way of being conscious, or (2) say "I sense a blue square here now" and thus explicitly denote a physical object in the external world. I think it is clear that the difference between these two ways of speaking about perception is that one is more useful than the other for getting along in the world.

Yet one may ask whether the adverbial analysis is anything more than an account of our own mental states, i.e., of representations of the things in the physical world. May it not be that what we adverbially describe are ideas in the mind and that we therefore do not perceive the things in the world but only imagine that we do? From the beginning of reflective thought about perception, questions of this kind have bedeviled attempts to accurately describe the phenomenon. It may be thought that the act-object analysis, by positing the independently existing real sense-datum, provides us with a truly Realist epistemology. What are Ducasse's connate subordinate cognita but our own

⁴⁹Ducasse, "Moore's 'The Refutation of Idealism,'" p. 228-31.

mental states? On the adverbial analysis, the perception of a physical object consists not in the immediate apprehension of a fact or property in the external world, but merely in the existence of certain mental states. Cannot one say that according to the adverbial analysis we never really perceive physical things, but only have mental states which are, at best, only causally connected with the entities in the external world?

There is a fundamental confusion on this issue brought about by conflating two distinct kinds of mental events:

- (1) Being (perceptually) aware of a physical object;
- (2) Being (introspectively) aware of a sensation of a physical object.

In the first case we are aware of something extra-mental and independent of our mind. In case (2) we are aware of something taking place in our own mind. I think it is widely accepted that these are two distinct, though often closely associated, mental events. Suppose we say that the existence of a particular mental event, such as "sensing blue," is causally dependent upon a certain physical state of affairs, e.g., the book in front of me reflecting a certain wavelength of light through the air and into my eyes. We may say, and with some reason, that we are intellectually aware of the mental state when we are introspectively acquainted with it. Thus, when we introspect, we are not directly aware of the book, but only of the mental state connected with the book by a complex causal process. We can then say

that we don't know the book directly, but only something in our mind related to the book. But such introspection does not constitute perception.

The existence of the mental state, causally connected with the book, is what constitutes our perceiving the book. The only way in which we may correctly say that we don't really perceive the book directly is by way of the comparison of perceptual awareness with some other variety of awareness that some other kind of being may have of things, or in contrast to the way we know our own mental states by introspection. Ignoring our introspection, or as C. A. Strong would have it, our "supernumerary thoughts," I contend that in having a perceptual mental state (such as "sensing bluely") I am aware of the book to which that mental state is connected. That is what is meant by sense-perception. The fact that perception is a kind of awareness in which there is a causal relation between the mind and the object of awareness says nothing about what we are "really aware of" in perception.

Certainly, sense-perception is characterized by fallibility, due to the fact of its causal nature. But we are wrong if we imagine that because there is error, or even simply because sense-perception is causal, that what we perceive are always appearances and not the things themselves. Winston H. F. Barnes writes: "If you wish to state only that something appears to be so and so, this can safely be done. But this is not a statement about some-

thing made on the piece of evidence itself, which you already have before you, without clothing it in words."⁵⁰

The value of the adverbial analysis, when coupled with a causal account of perception, lies in its ability to describe our sense-experience without introducing sense-data or any other entity which we are aware of in some way which is perceptual but non-causal. Thus, if we accept the adverbial analysis, we are not Realists in the sense that Moore, the early Russell, and some of the other early Realists would have allowed, for we do not hold that we are acquainted with the elements of the external world, but only that we perceive the real world by way of the fallible, causal process of sense-perception. In the ensuing portions of this paper I will in fact hold to some form of the adverbial analysis of sensation. The problem of the evidential status of perceptual experiences becomes the problem of assigning evidential values to mental states according to their causal relations to their objects in the physical world.

⁵⁰Winston H. F. Barnes, "The Myth of Sense-Data," in R. J. Swartz, ed. Perceiving, Sensing and Knowing (Garden City, NY: Doubleday, 1965), p. 155.

CHAPTER II

THE PROTOCOL-STATEMENT THEORIES

Although, as I have shown in Chapter I, the nature of sense-experience does not, in itself, guarantee the existence of an external world of objects of our immediate awareness, the question remains as to whether sense-experiences can constitute a secure basis for empirical knowledge. It has for a long time been apparent, at least to philosophers, that there is a problem about knowledge. Perceiving the historical options of scepticism and dogmatism as giving us a choice between a Scylla and a Charybdis, philosophers formulated what has come to be known as "the problem of the criterion."⁵¹ As stated by Roderick Chisholm, the problem is as follows; we may know (1) the extent of our knowledge and thus determine (2) the criteria for our knowledge. Or, we may know (2) and thereby find (1). The difficulty is that it seems we cannot know one of these until we know the other; thus they both remain unknown.⁵² Here we have an uncertainty principle that throws all empirical knowledge claims into question. There are four

⁵¹Roderick Chisholm, Theory of Knowledge (Englewood Cliffs, NJ: Prentice-Hall, 1966), pp. 56-69.

⁵²Roderick Chisholm, The Problem of the Criterion (Milwaukee: Marquette Univ. Press, 1973), pp. 12-14.

ways in which the problem of the criterion may be approached. One may say that he does know the extent of his knowledge, and thus can determine criteria for knowing. Or instead, he may hold that he does have criteria and thereby can discover what he knows. He may say that he knows both of these things, each independently of the other. Or he may hold the sceptical position; maintaining his ignorance with regard to both. Those who hold the first three of these views believe that all human knowledge has a foundation of one kind or another. In finding a firm footing for our epistemic structure, philosophers have traditionally been guided by an ideal of certainty. That is, they have held that the human individual has epistemic access to certain propositions, the truth of which is self-evident. We can break down this group into two sub-groups. First, there are those who have maintained that knowledge is grounded in self-evident truths, and that these truths are either analytic, and thus certain, or perhaps synthetic a priori. As my concern in this paper is for the character of empirical knowledge, we will not investigate these claims. The other group consists of those who hold that the criterion is self-evidence and that the certain basis for knowledge is self-evident perceptual propositions. Traditionally, this has been the view of those who hold the empirical criterion for knowledge, including the sense-data theorists. The argument for the empirical foundation of knowledge culminates in the protocol-statement theory of perceptual knowledge. It is to

this theory, and others like it, that I address myself in this part of the thesis.

The protocol-statement account of perceptual self-evidence originates with the Vienna Circle. However, Wittgenstein, in his Tractatus, had pointed out, that on the extensional interpretation of the structure of language, if there are meaningful complex statements, there must be "elementary propositions" which have given truth-values. Wittgenstein did not attempt to determine what type of proposition the elementary proposition may be; that, he wrote, is a question of the application of logic (5.557). Members of the Logical Positivist movement, under the influence of the Tractatus, attempted such an application of Wittgenstein's analysis of language.

In his The Logical Structure of the World (1928), Rudolp Carnap formulated a "constructional system" by which he hoped to synthesize traditional rationalism and empiricism so as to give an account of how the mind, beginning with primitive elements, produces an organized system of knowledge.⁵³ According to Carnap, the logical "construction" of the intersubjective world of everyday experience and science can begin with logical operations upon simple "autopsychological" elements and primitive relations between them. In the system presented, the simple elements of experience are the "elementary experiences," i.e., the sense-

⁵³Rudolf Carnap, The Logical Structure of the World, 2d ed., trans. R. A. George (Berkeley: Univ. of Calif. Press, 1967), p. vi.

data of a particular person, and the primitive relation obtaining between them which is that of remembrance of similarity.⁵⁴

In choosing a class of elements as the foundation of his constructional system, Carnap seriously considered two possibilities; a class of physical objects and a class of experiences. These alternatives constitute, respectively, the physical basis and the psychological basis for the epistemic structure.⁵⁵ As a basis, either the physical or the psychological is acceptable, in that a logical construction of the world of things we know is possible on either. However, Carnap, in developing a logical schema of knowledge, wants to be as faithful as possible to the material conditions of human knowledge, in this case, to the "epistemic primacy" of certain classes of possible basic elements over others. An element is epistemically primary to another element "if the second one is recognized through the mediation of the first." The choice of a psychological basis for the system is the result of first distinguishing two realms of psychological objects: the "heteropsychological" and the "autopsychological." Following received opinion, Carnap writes that:

. . . the autopsychological objects are epistemically primary relative to the physical objects, while the heteropsychological objects are secondary. Thus, we shall construct the physical objects from the

⁵⁴Ibid., pp. 107-9.

⁵⁵Ibid., pp. 98-9.

autopsychological and the heteropsychological
from the physical objects.⁵⁶

One knows physical objects by way of his own sensations (autopsychological elements) and the psychological objects of others (heteropsychological elements) by way of physical objects (e.g., facial expressions, gestures, of possible brain states.) Thus Carnap embraces "methodological solipsism" so as to keep his formal system similar to the syntheses of cognition as they occur in the actual process of thought. Although many had espoused the doctrine that all our knowledge is ultimately grounded upon simple sensation, Carnap's Logical Structure of the World represents the first major attempt to explicate the structure of that knowledge.

Carnap's "elementary experiences," equated with simple sense-experiences, appeared to many as likely candidates for the secure foundations of empirical knowledge. As a criterion of the self-evident, Chisholm suggests that certain beliefs are self-evident whenever, in response to queries for justification, we may respond "What justifies me in counting it as evident that a is F is simply the fact that a is F."⁵⁷ It makes good sense for the empiricist to ground his system of knowledge in the class of simple sense-experiences (no matter whether he analyzes these adverbially or on the act-object model), for these experiences have traditionally been taken as indubitable; and the corres-

⁵⁶Ibid., pp. 88-94.

⁵⁷Chisholm, Theory of Knowledge, p. 26.

ponding statements, incorrigible. If one is called upon to justify his asserting "I am having a red sense-experience" the best he can do is to make, as his justification, the same assertion. So the application of logicist methods to these primitive elements of experience appeared to mark a high point in the articulation of empiricist dogma.

However, there were problems with the Logical-Positivist epistemic system. On the view of Carnap, Neurath, and other members of the Vienna Circle, human knowledge, and science in particular, insofar as it is genuine, consists of a system of formation and transformation rules according to which statements can be formulated and inferences made. In the nature of the case, non-linguistic elements cannot be part of a syntactical system. Sensory experiences of human individuals cannot directly enter into the language of "unified science," as Carnap called it. In the formal analysis of language Wittgenstein "showed" in the Tractatus, the relation of the syntactical system to the facts comprising the world was explained by the structural isomorphism between the elementary propositions and the atomic facts: "A proposition is a picture of reality" (4.01). The Logical Positivists, however, did not accept the picture theory of propositions and their relation to reality, considering it to be vague and metaphysical. Characterizing this development, Carl Hempel reflected:

If it is possible to cut off the relation to facts from Wittgenstein's theory and to characterize a certain class of statements as true atomic statements, one might perhaps maintain Wittgenstein's important ideas concerning statements and their connections without further depending on

the fatal confrontation of statements and facts . . .

The desired class of propositions presented itself in the class of those statements which express the result of a pure immediate experience without any theoretical addition. They were called protocol statements, and were originally thought to need no further proof.⁵⁸

Thus the truth of falsity, and with it the meaningfulness of empirical statements depends on the individual's protocol, which refers to a subjective experience.

Science, once taken as the paradigm of objective knowledge, is shown to be radically subjective. Neurath found this result totally unacceptable, and set out to reconstrue the form of protocol-statements so as to maintain the objectivity, as well as the verifiability, of the scientific propositions derived from them. Neurath attempted to do this by taking as protocols factual statements of the same form as statements referring to physical objects or events, differing only in that, in them, a personal noun always occurs several times in a specific association with other terms. For example, a protocol statement might read: "Otto's protocol at 3:17 o'clock: [At 3:16 o'clock Otto said to himself: (at 3:15 o'clock there was a table in the room perceived by Otto)] ." ⁵⁹ The essential characteristic of a protocol is the occurrence, within the innermost brackets, of a personal noun and a term from the domain of perception

⁵⁸Carl Hempel, "On the Logical Positivists' Theory of Truth," Analysis 2 (1935): 51.

⁵⁹Otto Neurath, "Protocol Sentences," trans. G. Schick, in A. J. Ayer, ed., Logical Positivism (Glencoe, Ill.: The Free Press, 1959), p. 202.

terms. For Neurath, every protocol has a truth-value, and it is by reference to these basic statements that all statements may ultimately be verified. The verification of a scientific, or any other kind of empirical statement, depends upon the truth-values of the statements comprising the class of protocols. These statements, in the form Neurath gives them, are not statements directly referring to personal experiences; rather they are statements of intersubjective, publicly observable fact.

Thus empirical knowledge finds an objective base. The upshot of this reconstrual of protocols is that in becoming ordinary empirical statements, they also became corrigible. Carnap, while Neurath was looking for a new kind of protocol, tried to maintain protocol statements as referring to immediate experiences by postulating the ultimate translatability of all statements of personal sense-experience into public empirical statements about brain states.⁶⁰ Yet this failed to satisfy Neurath, who held that the protocol statements must be integral components of the syntactical structure of scientific knowledge, if inferences from them and verification by appeal to them was to be possible. The loss of the base of subjective certitude for the knowledge structure did not bother Neurath. Indeed, unlike most members of the Vienna Circle, he believed that the true spirit of empirical scientific inquiry lay beyond the Machian positivism embodied in

⁶⁰Rudolf Carnap, "Psychology in Physical Language," trans. G. Schick, in A. J. Ayer, ed. Logical Positivism, p. 197.

Carnap's original constructional system. No statement that can be accepted into the body of meaningful knowledge is absolutely incorrigible.

Carnap finally adopted Neurath's "objectivism," abandoning the incorrigible personal sense-experience protocol as the basis of knowledge. But on the way to this viewpoint, he attempted to maintain the connection, however tenuous, of subjective experience to protocol statements. Relying on the earlier distinction he had made in The Logical Structure of the World between knowledge of structure and experience of content, Carnap said that an objective system of propositions grounded in subjective experience is possible only because "even though the material of the individual streams of experience is . . . altogether incomparable, . . . certain structural properties are analogous for all streams of experience."⁶¹ It is only with these general structural properties of experience that science is concerned. Later, Carnap further attenuated the relation of protocols to subjective experience by suggesting that the assignment of truth or falsity to a statement depends upon the protocols of the scientists of our "cultural circle." Carl Hempel took a similar course, defining the class of true protocols as those generally accepted in science.⁶²

⁶¹Carnap, The Logical Structure of the World, p.107.

⁶²A. J. Ayer, "Verification and Experience," in A. J. Ayer, ed. Logical Positivism, pp. 230-1.

But it appears that even the fully physicalist description of protocols still ties objective science to subjective experience. A. J. Ayer writes that he wonders why Carnap and Hempel pay so much attention to protocol propositions, inasmuch as the only distinction which they are able to draw between them and other propositions is a distinction of form.⁶³ Why should a certain form of statement containing a personal pronoun or referring to a group of observers be chosen as the final verifier of factual statements if personal observation need not enter into objective knowledge?

Neurath, adapting Carnap's principle of tolerance, wrote that "there is no way of taking conclusively established pure protocols as the starting point of the sciences." The type of proposition we introduce as the "simple" in the syntactical system of knowledge is a matter of convenience, convention, and decision. Whatever class of statements are to be accepted as the final verifiers, none of these can be taken as absolutely incorrigible. "We also allow for the possibility of discarding protocol sentences. A defining characteristic of a sentence is that it be subject to verification, that is to say, that it may be discarded." ⁶⁴

Karl Popper, an associate of the Vienna Circle, elaborates on the relativity of the protocol statements. He writes in his Logic of Scientific Discovery of what he calls the "psychologistic basis" of the traditional empiricist movement; that is, the grounding of knowledge in the experience of indi-

⁶³Ibid. ⁶⁴Neurath, "Protocol Sentences," pp. 201-204.

vidual observers. Popper tells us that Neurath's view that protocol statements are not inviolable constitutes "a step in the right direction" (i.e., away from subjectivism). However, the problem with basing public knowledge upon corrigible protocols is that it can lose contact with reality completely, becoming purely arbitrary. Neurath, Popper writes, fails to give any rules for deleting or accepting a given protocol statement and thus "unwittingly throws empiricism overboard."⁶⁵ In the terminology of this essay, perception itself seemed to have lost all evidential status; and the selection of statements from which to construct empirical knowledge claims becomes arbitrary.

The severance of the language of empirical knowledge from immediate sense-experience on the part of Neurath, and later, Carnap, caused great alarm among other Logical Positivists. The quest for an objective base had collapsed into a pure conventionalism, governed by convenience at best, or at worst by caprice. Schlick was a major voice within the logical-positivist camp against this move. Against what he considered the "relativism" of Neurath and Carnap, Schlick argues that the dissolution of the incorrigible bases of knowledge condemns one to a coherence theory of truth. Since the confrontation of the primitive propositions of science with the atomic facts of non-verbal reality has been disallowed, no such statement

⁶⁵Karl Popper, The Logic of Scientific Discovery, 2d ed., (New York: Harper & Row, 1968), p. 97

is true or false because of its correspondence with the facts of the world. As we saw above, Karl Popper commented that, to avoid arbitrariness, Neurath needs to state a rule for the assignment of truth-values to the protocols. Likewise, Schlick writes that "since no one dreams of holding the statements of a storybook true and those of a text of physics false . . . something more must be added to coherence, namely, a principle in terms of which the compatibility is to be established, and this would alone then be the actual criterion."⁶⁶

Schlick singles out the principle of "economy": that is, the rule which says "we are to choose those as basic statements whose retention requires a minimum of alteration in the whole system of statements in order to rid it of all contradictions." It is this principle, he says, which guides Neurath and Carnap in basing the system of scientific statements upon their freely selected protocols. However, Schlick contends that the principles of economy and coherence (or simply economy) cannot ultimately be adhered to, for "before one can apply the principle of economy one must know to which statements it is to be applied."⁶⁷ Schlick contends that the final criterion by which any statement is to be accepted must involve that statement's origin. Thus the body of accepted statements constitutes

⁶⁶ Moritz Schlick, "The Foundation of Knowledge," trans. D. Pynin, in A. J. Ayer, ed., Logical Positivism, p.216.

⁶⁷ Ibid., p. 216-17.

all the statements of a particular derivation and the questions of economy and/or coherence become superfluous or at least ancillary. Schlick's final appeal is to the incorrigible status of those statements which express facts of one's own perception, originating in immediate experience.

The great deficiency of Neurath's critical account of protocol statements, according to Schlick, lies in the fact that one's own statements play the final and decisive role in determining the system of knowledge one holds. Indeed Neurath did not hold this opinion; he wrote that "the fact that men generally retain their own protocol statements more obstinately than they do those of other people is a historical accident which is of no real significance."⁶⁸ He tells us that it makes no difference whether, in constructing the epistemic edifice, we utilize our own protocols or those of someone else. On this point, I think Neurath is essentially correct and that Schlick's contention is either true and trivial or simply mistaken. If all Schlick means is that the only way we come to know what other people's protocols are is by perceiving tokens of them (reading books; hearing speech) and that we could report these perceptual experiences in protocols of our own, then he is correct. However, if Schlick means to say that, in choosing between two protocols, one belonging to a trained scientific observer and one of my own making,

⁶⁸Neurath, "Protocol Sentences," p. 206.

I invariably choose my own, I cannot but see that Schlick is wrong.

As a test case, let's consider the following situation. I am visiting an astronomer, a veteran observer of the heavens, and he permits me to look at the planet Mars through his telescope. I put my eye to the eye-piece, see a red disc, and say "Ah yes, Mars, 'the Red Planet'," whereupon this perspicacious scientist tells me that I am mistaken; that the object I see through the telescope actually presents an orange appearance. Taking a second look, I see an orange disc. How do I respond? Quite naturally, I believe that the astronomer is correct, and that my first observation was mistaken. I abandon my own observation statement. Now this is not the only course open to me. For I could say that I must have seen it to be orange and forgot by the time I remarked on it or that I must have meant to call it orange but accidentally said 'red'. Or I could contend that, due to atmospheric conditions on the Earth or the planet's rapid rotation bringing an opposite hemisphere into view, the planet at first appeared to be red but now appears to be orange. On this "compromise" view, both of my protocols are true and the scientist is correct (at least for the present moment). Further, let us suppose that on my second look Mars had again appeared red, rather than orange. Perhaps I would hypothesize that Mars is of such a color that the disagreement is a matter of individual differences between observers' use

of the color terms. The last thing I want to do is to contradict the astronomer on this point. Schlick maintains that "under no circumstances would I abandon my own observation statement."⁶⁹ But, abandoning my observation statement is my first reaction, although I have other possibilities. I will grant the point that someone may stubbornly hold to the truth of every protocol he has ever uttered, and as Schlick suggests, accept only a system of knowledge into which the entire class of his protocols fits unmutilated. It is certainly true that someone could do this. Of course, if someone did this obstinately enough and systematically enough he would be thought insane by the rest of us.

Schlick is mistaken in his contention that the only way a pure coherence-conventionalism can be avoided is to ground scientific knowledge in incorrigible protocols denoting personal sense-experiences. The source of his error is, in retrospect, a simple but fundamental confusion of two different things. Discovering a class of what he considers incorrigibles, Schlick assumes that these statements alone can be the basis of knowledge. What kind of statements, on Schlick's view, might these protocols be? He tells us that they are the observation statements of individuals such as the reports "Here two black points coincide," "Here yellow borders on blue," "Here now pain."⁷⁰ The essential feature

⁶⁹Schlick, "The Foundations of Knowledge," p. 218.

⁷⁰Ibid., p. 219.

of any such incorrigible protocol is that it contains a demonstrative term which has the function of a present "gesture" toward something observed. There are two things that such ostensive statements can refer to. They can point to sense-data, that is, to elements of the world which are unlike physical objects although existing independently of the mind and are the objects of sensation. On the other hand, these protocols might be referring to modes of one's individual consciousness. These interpretations correspond, respectively, to the act-object analysis and the adverbial analysis of perception.

On the supposition that Schlick accepts an act-object analysis of perceiving, I wonder of what value his introduction of demonstrative terms into the protocols is. For on this view the subjective protocols are no more than statements asserting the existence of certain sense-data. And since the sense-datum is an objective constituent of the physical world, rather than a mental entity, the protocol is a statement of empirical fact, and like all other statements in the "physicalistic" language of science, open to verification or to abandonment. Thus the difference between the physicalistic protocols proposed by Neurath and Carnap, and the sense-experience basic statements espoused by Schlick, is not the difference between corrigible statements and incorrigible statements, but simply a difference of variety of extra-mental entity denoted. Alternatively, Schlick's protocols may be thought

of as reports of an individual's introspection. The object of such introspection is, as I have already maintained, no constituent of the external world but simply according to what "introspection" means, a state of affairs in one's mind; in this case, a specific mode of the sensory affection of consciousness. Although it is not universally accepted that introspection yields certainty, I grant Schlick and any other defender of the sure foundation of knowledge that point for the present. So Schlick is justified in his exclamation: "What I see, I see!" but only if by "see" he means introspective awareness of a specific ocular modification of one's consciousness. If one "sees blue(ly)" there is no sense in doubting the truth of the corresponding protocol as long as the assertion is restricted to being just what it is-- a report of introspection. To apply the "What I see, I see" dictum to perception, rather than to introspection, is thoroughly unacceptable. Even a protocol so restricted as "I see something blue" is defeasible. It may well be the case (though it isn't the case very often) that there is no blue thing external to me; perhaps there is nothing there at all.

Returning to my example of the astronomical observation, we should note that one's rescinding his earlier protocol does not constitute the admission that one was mistaken about his "sensing redly." The "I was wrong on my first observation" reaction contains not a complete dismissal of an experience, but a reclassification of it. In the first case I experienced a particular state of sensory consciousness,

introspected that state of mind, and denoted it informally in the protocol. When I made the second observation I experienced a different mode of sensory consciousness, introspected it, and reported it in a new protocol. As far as my mental state is concerned, the two experiences, introspections, and uttered protocols are quite similar. The difference between these two events is that one of them is a perception (with the introspective awareness of it): an awareness of certain features of the external world, while the other is not, but only a particular mental event (with introspective awareness of that event). This latter kind of event we may call a sensation, but only guardedly, keeping in mind that we do not mean awareness of the external world by way of the five senses as species of perceiving. Statements of the second type, if we were to assume the certainty of introspections, are indefeasible. Statements of the first type--perceptual protocols--are always defeasible. Given any particular instance of sensory awareness we may report it in either of these two kinds of protocols: e.g.,

(1) I am having an orange-sensation.

(2) I perceive something that is orange.

But I think the adverbial form of expression is superior to this in that it makes the difference more apparent.

(1) becomes:

(3) I sense 'orangely'.

The adverbial analysis lets sensations be sensations, i.e.,

modifications of the mind, and perceptions be perceptions, i.e., knowledge of physical objects. In determining what kind of statement is to be admitted into the epistemic system as its basic element, it is essential that the difference between perception protocols and sensation protocols be clearly delimited.

Schlick was systematically ambiguous in his treatment of these two kinds of protocol sentence. He writes that those statements which ought to be accepted as protocols since they are free of all doubt, are "those that express the facts of one's own 'perception', or whatever you like to call it."⁷¹ There is no point in arguing about the uses of the terms, but it is significant that Schlick fails to make the essential distinction. In so far as Schlick wants incorrigible protocols, statements that express immediate facts of introspective knowledge of sensations do the job. When, to avoid the coherence theory of truth and subjectivism, he calls for statements that refer to the real, extra mental world, perception protocols fulfill his need. But no statement can fulfill both criteria. Incorrigibility is reserved for those synthetic statements which are self-evident. Reference to the public domain is only found in corrigible statements.

Popper's view of what I have designated the sensation-protocols is illuminating at this point. Statements about personal experiences are not suitable "stopping places" in

⁷¹Ibid., p. 225.

our attempt to test physical theories, for they cannot be tested.⁷² Their incorrigibility renders them useless to science. Such statements Popper refers to as "metaphysical" or non-empirical.⁷³ They do not enter into empirical knowledge; we may ignore them, since their very incorrigibility, or unfalsifiability in principle, renders them useless for grounding true empirical knowledge-claims. Genuine empirical knowledge is testable and subject to falsification by the community of trained observers.

Nelson Goodman argues that personal sensory-experience reports are not incorrigible, for "judgements concerning immediate phenomena may be rejected in favor of judgements concerning physical objects."⁷⁴ An example of such an abandonment of a sense-experience report I have already given in the case of seeing Mars through the telescope. Again, I think that the rather fundamental distinction between sensation and perception resolves the difficulty of the incorrigibility of the statements which may be adopted as the foundation of empirical knowledge. Goodman is correct in pointing out that we often do, in a sense, abandon or reject a protocol due to its incompatibility with other protocols or other kinds of statements. But this rejection, it seems to me, is a decision on the part of the observer

⁷²Karl Popper, The Logic of Scientific Discovery, p.105.

⁷³Ibid., p. 69.

⁷⁴Nelson Goodman, "Sense and Certainty," in Problems and Projects (Indianapolis: Bobbs-Merrill, 1972), p. 61.

to reclassify a particular report as a sensation report rather than as a perception report. Such reclassification reminds one of the Critical Realists' "wild sense-datum," differing from a genuine object of perception only in its relation or lack of relation to other sense-data.⁷⁵ Although we may decide that we were wrong in thinking we had a particular perception, the original judgement is done away with in the sense that we forget about it and are no longer interested in it. We lose interest in it for what we are looking for is knowledge about our environment, not about our own mental states. The abandonment of a sensation once mistaken for a perception resembles the forsaking of a belief once mistaken for knowledge.

The difference between a mental event being merely a sensation and being a perception lies not in any intrinsic character of the event but of the event's relation, or lack of it, to the external world. This relation and thus the truth or falsity of any perception protocol, is a matter of public, testable, empirical fact. An "I perceive . . ." protocol is an assertion of an objective relation between one of my subjective mental states and the objective world. The epistemic system is founded upon references to the real world, but those references are always open to public scrutiny.

The question with which I am concerned is that of the relation of sensation-reporting statements to perception-

⁷⁵R. J. Hirst, The Problems of Perception (London: George Allen & Unwin, 1959), p. 39.

reporting statements; particularly with the extent to which a critical introspective appraisal of sensation can warrant the corresponding perceptual reports. However, before approaching that problem, we should note that it has been argued that not only perception protocols, but even sensation protocols, are corrigible. Here I will adumbrate two lines of argument against their incorrigibility.

The first argument brought against the common-sense view that introspective knowledge is incorrigible is that introspection, and thus any sensation-reporting protocol involves the faculty of memory. One proponent of the view, Bruce Aune, writes that:

The admission that memory is intrinsically fallible is, however, extremely damaging to the idea that phenomenal identifications could not possibly go wrong. There is plainly a sense in which memory is involved in all judgments of identification. To judge that a phenomenal occurrence has the property F is to assert that it belongs to the class of F's, that the property it has is just the property that is possessed by other F's. But how could one know this infallibly, if one's memory is intrinsically fallible?--if one may well misremember the peculiarities, the distinguishing features, of F's generally?⁷⁶

This sceptical attitude dates back to C. S. Peirce who writes that direct experience affirms nothing--it simply is: it involves no error because it testifies to nothing but its own existence. But "when it comes to be criticized it is past, itself, and is represented by memory."⁷⁷ William James

⁷⁶Bruce Aune, Knowledge, Mind, and Nature (New York: Random House, 1967), pp. 35-6.

⁷⁷C. S. Peirce, "The Scientific Attitude and Fallibilism," in J. Buchler, ed. Philosophical Writings of Peirce (New York: Dover, 1955), pp. 57-8.

also found the introspection of one's own mental states to be fallible. He writes:

Even the writers who insist upon the absolute veracity of our immediate inner apprehension of a conscious state have to contrast with this the fallibility of our memory or observation of it, a moment later . . . the psychologist must not only have his mental states in their absolute veritableness, he must report them . . . name them, classify and compare them and trace their relations to other things . . . And as in the naming, classing, and knowing of things in general we are notoriously fallible, why not also here?⁷⁸

The most forceful statement of this difficulty is found in the work of Anthony Quinton, who writes:

. . . the more we seek to protect sense-statements by cutting them off logically from other beliefs that might count against them the less they can be conceived as doing If they [the defenders of incorrigibility] insist on the fallibility of memory, sense-statements can have . . . an instantaneous and evidentially wholly infertile kind of incorrigibility. If they do insist on it they cannot maintain that where there is an inconsistency between a sense-statement, the recollection of an immediately previous statement and a recollection of identity of apparent character one of the latter must always be rejected.⁷⁹

If it is the case that a sensation-reporting protocol is dependent on memory, and if memory is inherently fallible, it follows that such protocols are not incorrigible.

A more radical argument against the incorrigibility of subjective sense-protocols is the fact that the identification of sense particulars is only possible by the employment of a conceptual apparatus within which, sub-

⁷⁸William James, The Principles of Psychology 2 vols. (New York: Dover, 1950), 1: 189-90.

⁷⁹Anthony Quinton, The Nature of Things (London: Routledge & Kegan Paul, 1973), pp. 167-8.

jective experience can become knowledge. Wittgenstein's famous "private language" argument (Philosophical Investigations, 258) is the foremost example of this type of criticism. Here the correct identification of a sensation, which is presupposed in any protocols' being able to be true or false, is only possible by the application of the intersubjective meaning-rules of a public language. Another variety of this style of argument is the contention that there is no such thing as a purely subjective sensation-reporting protocol. This was maintained by Peirce, and later by other pragmatists, who held that the ascription of any quality to a subject immediately involves one in the application of a general law and a prediction directed toward one's future experiences.⁸⁰ Karl Popper maintains an essentially similar view. He writes that even the simplest sensations are "theory-impregnated," adaptive reactions, and therefore, interpretations which are rife with conjectural expectations. Further, there can be no pure protocol language, for a language incorporates theories and myths.⁸¹

W. V. O. Quine has argued that the attempt to ground empirical knowledge in subjective sensory experiences is misguided: "Entification begins at arm's length; the points of condensation in the primordial conceptual scheme

⁸⁰Peirce, "Perceptual Judgements," in J. Buchler, ed. Philosophical Writings of Peirce, pp. 302-3.

⁸¹Karl Popper, Objective Knowledge (Oxford: Clarendon, 1972), p. 145.

are things glimpsed, not glimpses."⁸² The semantics of ordinary language direct our attention to middle-sized, relatively nearby, slow moving, physical objects.⁸³ Any pure protocol language must be derived from the everyday language used to describe the world of material objects and thereby, to one degree or another, is bound to the theoretical commitments of ordinary language and subject to its failings and to the possibility of its misuse.

Whether sensation-reporting protocols are defeasible or not is a question I will not pursue here. I have merely shown that their incorrigibility is open to some doubt. Whatever the case, the problem now open before us is that of the relation of statements reporting introspective awareness sensations to statements reporting introspective awareness of perception. As pointed out earlier, although Neurath and others attempted to introduce physicalistic protocols supposedly connected to personal sense-experience only out of convenience, that relation seemed to be necessary if the empirical knowledge structure is to have any connection to reality. Popper, who dismissed Neurath's protocols as psychologistic, introduced the class of what he called "basic statements" which are singular existential statements. It is statements of this class which can contradict a theory and thus, on Popper's view, if they are repeatable,

⁸²W. V. O. Quine, Word and Object (Cambridge: MIT Press, 1960), p. 1.

⁸³W. V. O. Quine, Ontological Relativity (New York: Columbia Univ. Press, 1969), p. 1.

refute one theory in favor of another and direct us toward genuine empirical knowledge. Popper adds that the basic statements must satisfy the material requirement of referring to observable events. Maintaining that though it may appear that he has reintroduced subjective sensation reports, Popper says that while observations and perceptions may be psychological, observability is not. Observability he hopes to introduce as a primitive epistemological term.⁸⁴ Popper tells us that his basic statements are in principle translatable into purely objective statements, for we may stipulate "that every basic statement must either be itself a statement about relative positions of physical bodies, or that it must be equivalent to some basic statement of this 'mechanistic' or 'materialistic' kind."⁸⁵ Perhaps Popper has managed to avoid the direct admission of subjective sensation or perception reports into the epistemic structure, but his attempt to designate observability as an undefined concept fails to hide the relation that science (as paradigmatic empirical knowledge) has to the world we know perceptually. Empirical knowledge is, let us suppose, based upon a class of basic statements. Every statement of the system is meaningful in so far as it is truth-functional of these statements. These basic statements, the atomic propositions of the language of science, must in turn have truth-values. Surely,

⁸⁴Popper, Logic of Scientific Discovery, pp. 100-3.

⁸⁵Ibid., p. 103.

these statements may be assigned truth-values in any number of ways--by mere caprice, by flipping a coin, or whatever. Although the truth-value of such a statement may be determined in any of various ways, unless it is established by the personal sensory or perceptual experience of individuals, that statement is of no value in our attempt to gain knowledge about the empirical world. An epistemic system may be contrived in which the basic statements are true or false according to, e.g., coin tosses, but such a system will never constitute empirical knowledge.

Popper chooses the most basic class of public statements for their testability and draws a line between these and phenomenal reports, calling the later metaphysical. But what is the relation? What are the "metaphysical foundations" of science? I contend, in the next chapter of this thesis, that empirical knowledge does have foundations, but that the inferential structure by which they support empirical knowledge claims is more complex than we may first suppose and stands in need of explication.

CHAPTER III

THE WARRANT-STATEMENT ANALYSIS

The problem of determining whether and how subjective phenomenal beliefs provide evidence for, or warrant, beliefs about things in the external world is an old one. John Locke wrote:

There can be nothing more certain than that the idea we receive from an external object is in our minds: this is intuitive knowledge. But whether there be anything more than barely that idea in our minds; whether we can thence certainly infer the existence of anything without us, which corresponds to that idea, is that whereof some men think there may be a question made; because men may have such ideas in their minds, when no such thing exists, no object affects their senses.⁸⁶

While Locke was sure that the external origin of "ideas of perception" is provided by an evidence that, though not apodictic, puts us beyond doubting, Kant saw the problem as more urgent and wrote that:

It still remains a scandal to philosophy and to human reason in general that the existence of things outside us . . . must be accepted merely on faith, and that if anyone thinks good to doubt their existence, we are unable to counter his doubts by any satisfactory proof.⁸⁷

Although we may have no interest in refuting the claims of

⁸⁶ John Locke, An Essay Concerning Human Understanding, collated and annotated by A. W. Fraser, 2 vols. (New York: Dover Press, 1959), vol. 2, pp. 185-6.

⁸⁷ Immanuel Kant, Critique of Pure Reason, p. 34.

the sceptic, the question of the justification of empirical knowledge may still interest us, if only because it may throw some light on the general problem of the nature of knowledge.

In the previous chapter we found that the attempt to ground knowledge of physical objects in the immediate data of sense found itself forced to choose between subjectivism and dubitability. Worse, the choice to build upon subjective experience so as to guarantee certainty may have come to nothing; many have held that no experience can be certain. Further, the decision to start with an intersubjective base may, as we noted, have failed to extricate itself from the subjective. The difficulties encountered in the logical reconstruction of the epistemic structure from a particular class of protocol statements has led to a concern for a more careful analysis, not so much of the formal structure of knowledge, as of the evidential relations among the epistemic concepts embodied in ordinary discourse. The evidential, or warranting, character of various epistemic locutions has been the theme of an extended analysis carried out by Roderick Chisholm in a series of books and articles dating from the late 1940's almost to the present. It is to this analysis, and the problems in it, that I now turn my attention.

The concept of evidence enters our epistemological discussion in three general ways. We may say that a belief is "evidenced," or warranted by another proposition or belief.

These three categories may overlap. Thus a statement may be evident itself while warranting some other statement. In this case we say that the first statement confers evidence upon the second statement, and distinguish the evidential status of the two propositions, referring to the first as directly evident and the other as indirectly evident. The relation in which we are interested is the way in which directly evident perceptual beliefs may warrant other perceptual beliefs. So we are still dealing with the fundamental epistemic structure of basis underlying inferred superstructure. However, the task that now lies before us differs fundamentally from the phenomenalist and physicalist programs for the epistemic construct in that we are investigating the inferential patterns of epistemic, rather than inductive, logic.

Early in his investigation of the structure of empirical knowledge Chisholm questioned the basic contention of the constructionalist theories, i.e., the "translatability theory," which states that any physical thing statement entails a group of purely phenomenal statements. However, due to the facts of "perceptual relativity" it appears that only in conjunction with another thing statement referring to observation conditions can a statement such as "This is red" entail "Redness will appear" only in conjunction with a statement describing external conditions such as:

This is observed under normal conditions; and if
this is red and is observed under normal conditions,

redness will appear.⁸⁸

The difficulty arises when a different statement of observation conditions obtains, such as:

This is observed under conditions which are normal except for the presence of blue lights; and if this is red and is observed under conditions which are normal except for the presence of blue lights, redness will not appear.⁸⁹

Appealing to ordinary usage, Chisholm tells us that the second observation conditions statement is consistent with the phenomenal statement "This is red" and therefore, the conjunction of "This is red" and the second observation conditions statement is consistent with the falsity of the phenomenal statement "Redness will appear." So the physical object statement does not entail the phenomenal statement.⁹⁰

That the relation of phenomenal to physical object statements is contingent is also the point of the traditional sceptical argument which states that where S stands for the predicate "is a subjective sensory event," P stands for the predicate "is preceded by a corresponding physical event," and M is the modal operator for possibility,

$(x) (Sx \supset M \neg Px).$

The denial of this proposition is the proposition

$(\exists x) (Sx \supset LPx),$

where L is the necessity operator. It is highly doubtful

⁸⁸Roderick Chisholm, "The Problem of Empiricism" in Perceiving, Sensing, and Knowing, Robert J. Swartz, ed. (Garden City, NY: 1965), p. 349.

⁸⁹Ibid.

⁹⁰Ibid., pp. 349-50.

whether anyone would hold this proposition; to do so is to believe that there is an instance in which a phenomenal state is necessarily linked to the physical world.⁹¹

The failure to show that the relation between phenomenal statements and physical thing statements is one of entailment necessitates an alternative account of the manner in which subjective sense-experience may be said to justify knowledge of physical things.⁹² If perceptual statements referring to physical things are to be justified, they will be justified by their evidential status, not by any necessary connection to subjective states.

Chisholm's first approach to the problem remains parallel to the traditional empiricist attempt to ground knowledge of physical things in immediate sense-experience. He writes that if we consider any perceptual knowledge claim such as:

(P1) That is Mt. Monadnock behind the trees,
and ask how we would justify this statement if called upon to do so the following structure comes into view. Underlying the perceptual claim are two different kinds of statements; one is a second, more limited perceptual claim and the other is a statement of independent information. For example, to justify (1) one might say:

(P2) I see a high mountain with a cabin near the top,

⁹¹Richard L. Purtill, Logic for Philosophers (New York: Harper and Row, 1971), p. 267.

⁹²Chisholm, "The Problems of Empiricism" p. 353.

a justifying perceptual statement, and add:

(I1) There is no other mountain like that anywhere near here,

thus stating independent information. The second perceptual statement could in turn be justified by a perceptual statement in conjunction with an independent information statement, and the justification process could continue, in principle, either indefinitely or until a perceptual statement is reached which cannot be justified by any lower level statements.⁹³

It is this line of thought, following such an imaginary series of requests for the justification of a perceptual claim, which has been the basis of empiricist thought. Traditionally, the points at which the inverted tree of perceptual justification must stop branching have been held to be perceptual knowledge claims which one cannot justify by appeal to anything beyond themselves. Such statements are reports of immediate, subjective sense-experiences, the role of which was discussed in the second part of the thesis where we found that the attempt to integrate them, as the class of protocol statements, into the inferential system of empirical knowledge was problematic. In the paper's first part I tried to show that the attempt to immediately infer the existence of extra-mental entities from such statements resulted from an erroneous analysis of them. Here I follow the attempt to construe the warranting

⁹³Roderick Chisholm, Perceiving: A Philosophical Study (Ithaca: Cornell Univ. Press, 1957), pp. 55-8.

relation between these statements and other (perceptual) statements. Chisholm points out that, in its most radical form, empiricism can be thought of as the belief that only phenomenal beliefs, which on the adverbial analysis of sensation would take the form, e.g., "I am appeared to redly" are evident and that only these statements can confer evidence on other statements.

Prefatory to considering the "empirical criterion" for evidence, Chisholm tries to ascertain a general set of criteria for the "marks of evidence." He suggests that "whenever a man has adequate evidence for some proposition or hypothesis, he is in a state which constitutes a mark of evidence for that proposition or hypothesis."⁹⁴ By looking at such paradigm cases we may ascertain the marks of evidence. To determine which propositions are evident we must have a criterion for the marks of evidence. The discovery of such a criterion constitutes one solution to the problem of the criterion of knowledge I referred to in part two. When do we have the marks of evidence? When might a knower apply the locution "I have evidence for the proposition h"?⁹⁵ Chisholm gives us three marks of evidence which constitute a set of criteria such that if a proposition satisfies them, we may properly call that proposition evident. The first mark is epistemic neutrality; that is, if someone

⁹⁴Roderick Chisholm, "'Appear,' 'Take,' 'Evident,'" in Perceiving, Sensing, and Knowing, Robert J. Swartz, ed. (Garden City, NY: Doubleday, 1965), p. 476.

⁹⁵Ibid.

is in an evidence-making state, he can describe that state without using epistemic terms. This criterion safeguards the person claiming to know an evident proposition from the charge of circularity

The second mark of evidence is that the subject be in a condition such that he cannot be mistaken about being in that state while he is in it; neither could he falsely believe that he is in that state when he is not actually in it. This second criterion runs up against the problem of the supposed incorrigibility of introspective knowledge claims. But Chisholm qualifies this criterion by writing that it may be taken in either of two ways. In the first of these, in order to avoid some of the difficulties of claiming that a synthetic statement is certain, we may say that statements describing such states are not the kind of statement to which we can meaningfully apply the terms certain and uncertain. Rather than say that, e.g., "I sense blue" is certain, we might contend that it makes no sense to say that it can express error or mistake.⁹⁶ By analogy, such statements are epistemically "innocent," and cannot have "righteousness" or "sin" meaningfully ascribed to them.

The second method by which Chisholm's second mark of evidence may be saved from ascribing epistemic incorrigibility to sense-experience reports is that of reformulating the definition of certainty. Rather than taking certainty or incorrigibility as a feature of the statement itself, Chisholm

⁹⁶Chisholm, Perceiving, p. 65.

defines it in terms of the relations between states of mind. In Perceiving he writes that " 's is certain that h is true' means (i) S knows that h is true and (ii) there is no hypothesis i such that i is more worthy of S's belief than h."⁹⁷ Later, in the formalization of the Calculus of Epistemic Preferability, Chisholm and Keim present the following definition of certainty:

$$CTh = df (Bh \text{ P } Wh) \ \& \ Bh \ S \ B(h \wedge \neg h),$$

which conjoins the statement that h is "beyond reasonable doubt," previously defined as:

$$Rh = df Bh \text{ P } Wh,$$

(which states that believing h is epistemically preferable to withholding h) with the statement that believing h has the same epistemic value as believing the tautology $h \wedge \neg h$. The relation "having the same epistemic value" Chisholm and Keim define as:

$$pSq = df \neg(pPq) \ \& \ \neg(qPp).^{98}$$

Thus "being certain" means being in a state described by the preferential relations obtaining among one's own beliefs. I shall return to this point, but it will now suffice to show that the intent of defining certainty in terms of worthiness of belief or epistemic preferability, i.e., in terms of our belief-structures, is the avoidance of attributing certainty to the propositions believed.

⁹⁷Ibid., p. 19.

⁹⁸Roderick Chisholm and Robert G. Keim, "A System of Epistemic Logic," Ratio 15 (1972), pp. 101-2, 114.

Chisholm's third mark of evidence "for any subject S, that S has adequate evidence for a given proposition . . . h, would be a state or condition such that, whenever S is in that state or condition, S has adequate evidence for h."⁹⁹

Now the empirical criterion must, if it is to be acceptable, satisfy the three criteria. Does the state taken by empiricism to be evidence-making, i.e., the condition of an individual undergoing a sense-experience, have the three required marks of evidence? It appears that it may. A statement such as "I am appeared to redly" contains no epistemic term and thus fulfills the first requirement. Such a statement also meets the second criterion, since in making a sense-experience report it is impossible to be mistaken (if we grant Chisholm his analysis of "being certain"). Neither could one (on the same assumption) be mistaken and report that he was having a particular sensation when, in fact, he was not. If the empirical criterion of evidence satisfies the criteria for marks of evidence we may yet ask whether that criterion is adequate for the warranting of physical object statements.

We found that when we start justifying our perceptual claims we bring in supporting pairs of statements, one perceptual statement and one statement of empirical information. Finally, we reach a kind of claim which requires no evidential basis other than itself. This variety of statement Chisholm calls the directly evident. Leibniz had called them "primary truths of fact"; Meinong called them "self-presenting";

⁹⁹Chisholm, Perceiving, p. 35.

and Brentano referred to them as inner perceptions.¹⁰⁰ According to Curt Ducasse, they comprise the class of propositions having "ultimate undisbelievability."¹⁰¹ And it was this kind of proposition that comprised the class of protocols from which the phenomenologists attempted to construct the world of physical objects. But Chisholm finds this class of statements to be inadequate for the warranting of all the statements, following ordinary usage, we would take as evident. If we look at our perceptual justification structure, we find that as we approach the directly evident propositions the amount of information conveyed by the perceptual, as opposed to the independent information, statements decreases. Recognizing this feature of the way in which we justify our perceptual claims, R. J. Fogelin has pointed out that this procedure actually contains two methods; the "method of dilution" and the "method of hedging." In the first method we proceed by making the description more and more inclusive and thereby cutting down on our chances of error. Finally we approach the point of calling the thing a being and saying nothing about it. "Here incorrigibility and emptiness of descriptive content are approached as the same limit."¹⁰²

In Sense and Sensibilia, John Austin illustrates the

¹⁰⁰Chisholm, Theory of Knowledge, p. 28.

¹⁰¹C. J. Ducasse, Truth, Knowledge, and Causation, (London: Routledge & Kegan Paul, 1968) pp. 173, 176-8.

¹⁰²Robert J. Fogelin, Meaning and Evidence, (London: Routledge and Kegan Paul, 1967). pp. 97-8.

method of hedging by pointing out that one may attempt to use the "minimally adventurous" form of words, e.g., "There's a tiger--there seems to be a tiger--it seems to me that there's a tiger--it seems to me now that there's a tiger--it seems to me now as if there were a tiger."¹⁰³ The point to which these lead us is aptly put by Chisholm when he notes that when we reach this level of directly evident proposition we have dropped below the level of perception and are dealing only with sensations in the way in which I have used that term in part two. "Perceiving, as a way of knowing, seems to have disappeared"¹⁰⁴; a conclusion which, I might add, was foreshadowed above where we spoke of the "epistemic innocence" of the phenomenal statements. However, although the perceptual claims derive most of their support from the independent information statements, some of that support still comes from perceptual statements, and finally, from the phenomenal sense-experience claims.¹⁰⁵

Yet, agreeing with Hume, Chisholm believes that taken as our sole evidence criterion the empirical criterion leads us to a sceptical attitude with regard to knowledge claims about the external world. The empirical criterion is too narrow a base for the warranting of all the statements we would ordinarily regard as evident to us. Strict ad-

¹⁰³John Austin, Sense and Sensibilia (Oxford: Oxford Univ. Press., 1962), p. 141.

¹⁰⁴Chisholm, Perceiving, p. 70. ¹⁰⁵Ibid. p. 71.

herence to the empirical criterion leads us into the following dilemma. If we can make use only of the perceptual side of the justification frame, specifically the phenomenal statements, we cannot support our upper level perceptual claims, since phenomenal statements do not entail physical object statements. Therefore, we can only justify our perceptual claims by using the phenomenal statements in probabilistic inferences, thereby connecting the physical thing superstructure to the directly evident basis. But we cannot even formulate a probabilistic inference without going beyond the empirical criterion, for there can be no inductive canon which will render the physical thing statement probable in relation to the directly evident statement which doesn't say something about physical objects as well as phenomena. The statement "Well . . . the thing looks blue. And . . . if the thing looks blue to me in this light, then, surely, it is blue."¹⁰⁶ Now this constitutes an acceptable inductive argument, but if the general rule it contains: "if the thing looks blue to me in this light then, surely, it is blue" is an evident proposition, it can be so only on the basis of its being warranted by a phenomenal statement, and that connection must, in turn, be established by an inductive rule. It should be clear that the attempt to render physical object statements probable in relation to phenomenal statements leads to a regress of justification. To vary the terminology, we may say that no

¹⁰⁶Ibid., p. 71.

statement of initial conditions is adequate, without a theory, to establish a prediction. And neither is such a statement adequate to develop a theory in the first place. Thus, the empirical criterion, taken by itself, locks us into the world of phenomena.

To do justice to our ordinary belief that we do have knowledge and that that knowledge can be justified, Chisholm introduces a second criterion of evidence. Before explaining this criterion, I think it is worthwhile to note that it is Chisholm's separation of the concepts of certainty and of the evident (actually, he construes the certain as a species of the evident) which enables him to formulate his second criterion of evidence. So long as the evident and the certain are identical, escape from some form of phenomenalism or scepticism seems impossible. Brentano, for example, made this identification: "What is evident cannot be in error 'It is evident to me' comes to the same thing as 'It is certain to me.'" ¹⁰⁷ On this strict view of the evident, according to which only "insights" and "inner perceptions" are evident, lower-level perceptual claims can support very little of the epistemic structure.

Rejecting this more or less traditional view of what statements are warranted, Chisholm introduces a second class of statements which he thinks will satisfy the marks of

¹⁰⁷ Franz Brentano, The True and the Evident trans. R. Chisholm, Politzer & K. Fisher, (New York: Humanities Press, 1966), p. 126.

evidence. This second evidential state is that called "perceptual taking." A perceptual taking occurs when these criteria are met:

- (i) x appears in some way to S
- (ii) S believes that x is f
- (iii) S believes, with respect to one of the ways he is appeared to, that he would not be appeared to in that way, under the conditions which now obtain, if x were not f; and S did not arrive at these beliefs as a result of deliberation, reflection, or inference.¹⁰⁸

That perceptual taking, so defined, meets the first two criteria for the marks of evidence is clear. But the problem comes when we ask whether perceptual takings meet the third requirement. Is it, in fact, the case that whenever someone takes something to have some characteristic he thereby has adequate evidence for the proposition that the thing does have that characteristic? If the taking criterion is acceptable as a mark of evidence we will certainly have warranted beliefs about the external world; perceptual claims like "I see a cat on the roof" will be justified, and thus scepticism will be refuted.

However, it appears that the taking criterion is too wide, including cases in which we would not want to call a person's perceptual claims warranted. Throughout his writings, Chisholm has implicitly adopted a guide for the description of perceptual claims as warranted. We might say that an individual's belief is evident if it is such that if later events show it to be incorrect, we would still

¹⁰⁸Chisholm, "'Appear,' 'Take,' 'Evident,'" p.483.

maintain that the belief was evident to the person holding it at the earlier time. If this is acceptable, unveridical but evident takings are possible. Chisholm writes that our perceptual takings have a kind of "internal" justification, for most of them are veridical. However, some of our takings are incorrect; in those cases a false proposition is evident and, by epistemic preferability, we ought to place our confidence in that false proposition. The case, Chisholm believes, is analogous to that of moral judgments, in which we sometimes find that doing the right thing leads to wrong consequences.¹⁰⁹

At first the taking criterion, which draws upon our faith in spontaneous perceptual belief and the trustworthiness of our perceptual mechanisms, looks as though it might be an acceptable criterion for the perceptually evident. But there are cases in which the taking criterion fails to satisfy the implicit requirement for the designation of propositions as evident. The following example is a case in which a taking, though having the three marks of evidence, would not properly be called evident:

If a spectator feels certain that the defendant is the man who is guilty, then, if he takes someone in the courtroom to be the defendant, he will, thereby, also take him to be the man who is guilty. For he will believe, with respect to the way he is "appeared to," that he wouldn't be appeared to in that way under those conditions if the defendant--the man he believes to be guilty--were not there.¹¹⁰

The spectator does not have adequate evidence for believing

¹⁰⁹Ibid., pp. 484-5.

¹¹⁰Chisholm, Perceiving, p. 79.

in the defendant's guilt. Thus the perceptual taking criterion is too wide.

Perhaps what is needed is a restricted form of the taking criterion. Chisholm thus introduces the narrower class of "sensible takings." Returning to the Mt. Monadnock example, let us consider the following sequence of perceptual claims:

- (1) I see that is Mt. Monadnock behind the trees.
- (2) I see that there is a blue cabin near the top.
- (3) I see that there is something there which is blue.
- (4) There is something that appears to me in the way in which blue things would appear under conditions like these.
- (5) There is something that appears blue to me.
- (6) I sense blue¹¹¹ly.

According to the empirical criterion, (1)--(5) are not themselves evident unless they have evidence conferred upon them by being probable in relation to (6), which is directly evident. So long as they express what the perceiver believes, (1), (2) and (3) are evident on the perceptual taking criterion.¹¹²

As a compromise between these two views Chisholm proposes that statements of kind (3) exemplify a class of evident statements. Such takings may be unveridical, but still be evident in virtue of the informal criterion of evidence introduced above. For example, if a blue car is parked, at night, under a certain kind of street lamp, it appears to be green. If someone, unaware of the effects

¹¹¹with terminological modifications from Chisholm, Perceiving, pp. 81-2.

¹¹²Chisholm, Perceiving, p. 82.

and/or proximity of the street lamp, "sensibly takes" the car to be green, we may say that he has evidence for the proposition "I see that there is something which is green."¹¹³

The class of sensible takings differs from the larger class of perceptual takings in that it is restricted to beliefs or statements about what Chisholm calls the "proper objects" of the various senses and the common sensibles. The proper objects of vision are colors; of hearing, the various sounds; of feeling, somesthetic characteristics such as rough, smooth, heavy, hard; of taste, gustatory characteristics such as fragrant, putrid, burned. The common sensibles are those perceptible characteristics belonging to no particular sensory faculty. Examples of common sensibles are movement, rest, number, and also such relations as resemblance, difference, larger than, faster than, before and after, and so on.¹¹⁴

We have then an epistemic principle which states:

If there is a certain sensible characteristic F such that S believes that he perceives something to be F, then it is evident to S that he is perceiving something to have that characteristic F, and also that there is something which is F.¹¹⁵

Thus sensible taking adequately supports the knowledge one has about physical objects; put more accurately, the statement reporting a belief about one's own sensible taking warrants certain statements about the sensible characteristics of phys-

¹¹³Ibid., pp. 86-7.

¹¹⁴Chisholm, Perceiving, p. 87.

¹¹⁵Ibid., p. 47.

ical objects. But the evidence of sensible takings doesn't guarantee their accuracy. As Chisholm remarks with regard to the person who mistook the color of the car, though he is warranted in believing what he believes, "we may know he is wrong."¹¹⁶ When restricted to the sensible characteristics, the spontaneous act of taking confers evidence and reasonability,¹¹⁷ but not certainty.

To ameliorate the taking criterion for those who draw back from the notion of unveridical but evidential sensible takings, Chisholm differentiates "prima-facie" evidence from "absolute" evidence. We may say that a person has prima-facie evidence for a particular perceptual claim when his claim is evident relative to a certain body of information but is susceptible to being overthrown in light of a wider situation. The absolutely evident is that which is prima-facie evident, but is not overridden by information pertaining to a wider situation.¹¹⁸

Has Chisholm formulated an acceptable criterion for the evident? Even if one grants the possibility of unveridical evidence, it may be that the sensible taking criterion endorses cases as evident when in fact we would not consider a belief warranted, and is therefore too broad

¹¹⁶Chisholm, Perceiving, p. 87.

¹¹⁷Roderick Chisholm, "On the Nature of Empirical Evidence," in Chisholm and Swartz, ed., Empirical Knowledge (Englewood Cliffs, NJ: Prentice-Hall, 1973), p. 245.

¹¹⁸Chisholm, Theory of Knowledge, p. 48.

and in need of further restrictions.

Herbert Heidelberger raises the following objection:

If we have overwhelming evidence at a given time that an object is not yellow then the proposition that that object is yellow is not prima-facie evident at that time, even though for some reason we retain our belief that we perceive it to be yellow.

Heidelberger points out that to regard this proposition as prima-facie evident is to confuse a proposition's being evident with there being some evidence for it. To be prima-facie evident a proposition must not only have some warrant; but there must be no countervailing evidence.¹¹⁹

I think that Heidelberger is mistaken when he writes that a requirement of a statement's prima-facie evidence is there being no countervailing evidence for that statement's denial. This requisite involves us in all the difficulties which prevented us from justifying our perceptual claims entirely by appeal to other perceptual claims. The requirement can only be satisfied by the introduction of information about the physical world, which in turn can only be justified by appeal to an established criterion of evidence. I suggest that the proper requirement is not that there be no countervailing evidence, but that the person concerned have no such evidence. This criterion involves no reference to the individual's relation to the external world, but only places a consistency requirement upon one's beliefs.

¹¹⁹Herbert Heidelberger, "Chisholm's Epistemic Principles," Nous 3 (1969): 76.

Chisholm, in reply to Heidelberger, supplies a criterion for evidence which recognizes the need for the consistency of one's beliefs:

Necessarily, for any S at any t, if (i) S at t believes himself to perceive something to be F, if (ii) there is no proposition i such that i is evident to S and such that the conjunction of i and the proposition that S believes himself to perceive something to be F does not confirm the proposition that he does then perceive something to be F, and if (iii) the proposition that he does then perceive something to be F is a member of a set of concurrent propositions each of which is beyond reasonable doubt for S at t, then the proposition that he does then perceive something to be F, as well as the proposition that something is, or was F, is one that is evident for S at t.¹²⁰

The idea of "set of concurrent propositions" introduced in part (iii) of this description of the necessary conditions of perceptual evidence, simply refers to the further stipulation that the report of the sensible taking not stand in isolation, but be a member of a set of propositions that are mutually consistent and logically independent of each other (no one logically implies another) and are such that each one is confirmed by the conjunction of all the rest.¹²¹

Part (ii) tells us that the individual's beliefs (which are, as beliefs, directly evident to him) do not cast doubt upon the perceptual claim. A proposition i would be the report of a taking such as "I seem to remember my senses malfunctioning," "I believe that this is something

¹²⁰Roderick Chisholm, "On the Nature of Empirical Evidence," p. 249.

¹²¹Chisholm, Theory of Knowledge, p. 53.

that does not appear to be its normal color in this light," or (when the perceptual claim is "I see something round here") "I feel something square here." If the other conditions obtain, and the subject has no *i* evident to him, then the perceptual claim is *prima-facie* evident to him.

One may object that we would tend to resist saying a person's perceptual claim was, at some time *prima-facie* evident to him if that person had evidence available to him that would, in conjunction with his sensible taking, fail to confirm his perceptual claim. This argument has only a superficial plausibility. If by evidence available to him we mean that he was in a position to have an *i* become evident to him but, due to his observational carelessness, he failed to come to know *i*, we can only criticize the quality of his observational powers. It remains that no *i* was evident to him. But suppose that there is some proposition *p* evident to the subject and it happens that although *p* implies *i*, the subject is unaware of this implication. Again, I think that we can only criticize the subject's ignorance of the implication, but we cannot regard his perceptual claim as unwarranted for him. For one who knows that *p* implies *i*, *p* is an *i*, but this would not be the case with the individual we are discussing.

If a perceptual claim meets the stringent requirements for being *prima-facie* evident that I quoted above, I believe we may well consider it to be *prima-facie* evident. It may be that objections to these criteria are actually

objections to the original distinction made between the evident and the certain, and reflect an unwillingness to allow unveridical evidence.

A great deal of the relevance of the foregoing arguments lies in the well-known fact that sometimes, no matter what our beliefs, we are subject to various perceptual errors. We may, perhaps, summarize Chisholm's handling of the problem of perceptual warranting as an attempt to maintain the thesis that we do have justified perceptual beliefs--that we do, in fact, perceive-- in the face of the reality of these errors. Unfortunately, the fact of these errors is too often allowed to enter epistemological discussions in an unanalyzed state.

Let's return to an illustration of perceptual mistaking which we encountered as an example of unveridical sensible taking. This is the case of the blue car which, when parked under the street lamp, appeared green to the normal observer. Now one kind of perceptual error is that exemplified here, where the observer's error is the result of his making a perceptual judgement on the basis of too narrow a range of information about the observation conditions. In the case in question, the observer had a green sensation--he sensed greenly--and his having that sense-experience is a result of his sensory mechanisms operating properly. Ironically, it is the proper functioning of the observer's sense organs and nervous system which led him to make the mistaken perceptual claim. The car's sur-

face was reflecting light of a green wavelength and thereby stimulating the observer so that he did have a green sensation. The perceptual mechanism's ability to discern the facts of the world, but only within a narrow, immediate range, can be the basis of perceptual mistakes unless coupled with an adequate supply of relevant information about observation conditions.

If someone thinks that a stick seen through water is bent, or that at sunset the sun turns red and bloated, or that the train's whistle increases in frequency as it approaches him, his error is not due, in any straight forward sense, to the failings of his perceptual apparatus. This person's problem cannot be alleviated by repairing his eyes, his optic nerves, or ocular or auditory regions of his brain. The trouble is that his senses are dutifully and busily providing him information about his immediate environment. The light reaching his eyes from the setting sun is, as a constituent of the physical world in the observer's immediate vicinity, exactly like the light that would emanate from a huge red-orange globe hanging near the local horizon. And it is the same with the other cases. The observer is ignorant (if he is deceived) of particular features of the world that, as mediums in the three examples I gave above, or less directly as in the case of the car and the street lamp, interfere with the causal sequence that begins with the thing or event observed and terminates at the observer. But such causal interferences do have real

results in the physical world that are correctly reported by our properly functioning senses. Our senses tell us exactly what frequency light and sound they receive, what configurations and patterns are presented to them; they do not "cheat" on the immediate facts of the world so as to keep us from falling into error. The avoidance of error is the job of the mind obtaining and using independent information about the observation conditions so as to take everything relevant into account before making judgements about the world perceived. Unfortunately, we never seem to obtain all possible information about causal interferences and absolutely veridical perceptual taking remains an unrealized possibility.

Winston H. F. Barnes wrote that:

it is an epistemological ideal that if we were to discover completely the nature of existing things, there would be nothing left in the modes of appearance which would not entirely harmonise with our system of knowledge and find its explanation there.¹²²

Although I do not think that such a state of knowledge can, in principle, be reached, I do propose that the degree of warrant we may assign to our perceptual claims is functionally related to the degree of comprehensiveness to which our independent information about observation conditions attains. Can we formulate a criterion according to which a perceptual claim is justified (warranted, *prima-facie* evident)?

There is an analogous problem encountered by phil-

¹²²W. H. F. Barnes, "The Myth of Sense-Data," p. 155.

osophers of science. Carl Hempel considers an inconsistency that develops in the use of the commonly accepted statistical syllogism of the form:

a is F

The proportion of F's that are G is q

Hence, with probability q, a is G.

Traditionally this kind of inference has been restricted to cases in which the reference class is finite. But the probability stated:

$$p(G, F) = r$$

tells us, on the frequency theory of probability, that the long-run relative frequency of outcome G in some "random experiment" of kind F is r. In cases where r is equal to or very close to 1.0, it is our tendency to say something like: "If an experiment of kind F is performed just once it is practically inevitable that a result of kind G will ensue." This would perhaps authorize an inference of this form:

a is F

The statistical probability of an F to a G is very nearly 1.0

So, it is almost certain that a is G.

But this kind of inference leads us into difficulties. Suppose an argument assumes the following form:

Peterson is a Swede.

The proportion of Roman Catholic Swedes is less than 2%

So, almost certainly, Peterson is not a Roman Catholic.

Suppose that we then come across:

Peterson made a pilgrimage to Lourdes.

Less than 2% of those making pilgrimages to Lourdes are not Roman Catholics

So, almost certainly, Peterson is a Roman Catholic.

The individual case 'a' will belong to different reference classes ($F_1, F_2 \dots$) whose members exhibit G with different relative frequencies.¹²³ Inductive arguments must, it appears, be guided by what has been called the "Requirement of Total Evidence" (RTE) if we are to use them rationally and avoid the inconsistencies due to multiple reference classes. Quoting Carnap, Hempel provides a tentative rendition of RTE: "In the application of inductive logic to a given knowledge situation, the total evidence must be taken as a basis for determining the degree of confirmation."¹²⁴

A RTE for perceptual warrant would state that the total evidence relevant to possible interferences in the causal process be taken into account in the formulating of any perceptual claim. And I think people do operate with some such tacit guide for the justification of one's inference from phenomenal experiences to perceivings. If, ideally, the RTE had been satisfied, and the other criteria for perceptual taking met, an individual's perceptual claim would acquire absolute evidence. In all actual cases, the RTE enters our deliberations as an informal maxim which guides us in applying the rule, stated earlier, which says that an individual's perceptual claim is warranted if and only if an objective judge were to say that the belief was evident to the observer, and thus the observer had

¹²³Carl Hempel, "Inductive Inconsistencies" in Aspects of Scientific Explanation (New York: The Free Press, 1965), pp. 54-6.

¹²⁴Ibid., pp. 63-4.

excellent reasons to make the perceptual claim despite the fact that a wider range of information shows him to have been wrong.

There are other kinds of perceptual mistakes besides the variety we have dealt with. Returning to the car, now in normal lighting, let us consider this perceptual error. Suppose that the light reflected from the car's surface and transmitted to the observer's eye is blue. Most anyone who looks at the car will perceptually claim correctly--he will perceive--that the car is blue. But the observer in question senses greenly. Here, it seems, we have a different kind of perceptual error, not resulting from the paucity of our evidence about observation conditions, but one that comes about because our senses fail us. But the causal interference explanation still holds, albeit in modified form. A perceptual error of the kind just described results from what can be called an "internal," as opposed to an "external," interference in the causal sequence of perceiving. If blue light reaches and stimulates one's eye but one undergoes a green sensory modification of his consciousness this must result from a causal interference originating within the observer. His interference may be the result of a physiological defect or malfunction, e.g., a form of color-blindness, physical damage to the organs involved, drug-induced hallucination, etc.

A second possibility is that the causal interference taking place within the observer is the result of psych-

ological malfunction. There are two limiting cases of this variety of causal interference. One of these cases, which we would not normally call error, is that in which we automatically correct our sensory modifications subconsciously so as to integrate relevant independent information about observation conditions. The other limiting case is that of the outright hallucination, which has no causal connection to the external world but results solely from psychological factors. In principle, the RTE will included reference to all the possibilities for internal causal interference.

If one has all relevant information, not only about external observation conditions, but about his own physiological and psychological state, he can have absolutely evident perceptual beliefs. In the absence of such an ideal state of knowledge, one can still have prima-facie evident perceptual beliefs, by taking account of the RTE, so far as he is able to. Finally, RTE functions as a guide for the whole community of perceivers, as they strive to absolutize the store of warranted beliefs about the empirical world.

SELECTED BIBLIOGRAPHY

- Alston, William P. "Two Types of Foundationalism." Journal of Philosophy 73 (1976): 165-85.
- Aune, Bruce. Knowledge, Mind, and Nature. New York: Random House, 1967.
- Austin, John L. Sense and Sensibilia. Oxford: Oxford Univ. Press, 1962.
- Ayer, A. J. "Basic Propositions." In Philosophical Analysis. pp. 57-70. Edited by Max Black. Englewood Cliffs, NJ: Prentice-Hall., 1950; reprinted ed., Freeport, NY: Books for Libraries Press, 1971.
- Barnes, Winston H. F. "The Myth of Sense-Data." In Perceiving, Sensing, and Knowing. pp. 138-67. Edited by Robert J. Swartz. Garden City, NY: Doubleday, 1965.
- Bradley, F. H. Appearance and Reality. 2d ed. London: Oxford Univ. Press, 1897.
- _____. "On Our Knowledge of Immediate Experience." Mind 18 (1909):40-64.
- Brentano, Franz. "The Distinction Between Mental and Physical Phenomena." In Realism and the Background of Phenomenology, pp. 39-61. Edited by Roderick Chisholm. Glencoe, Ill.: The Free Press, 1960.
- _____. The True and the Evident. Edited by Oskar Kraus. Translated by Roderick Chisholm, Ilse Politzer, Kurt Fischer. New York: Humanities Press, 1966.
- Broad, C. D. Scientific Thought. London: Routledge and Kegan Paul, 1923; reprinted Paterson, NJ: Littlefield Adams, 1959.
- Carnap, Rudolf. The Logical Structure of the World, 2d ed. Translated by Rolf A. George. Berkeley: Univ. of California Press, 1969.
- _____. "Psychology in Physical Language." In Logical Positivism. pp. 165-98. Edited by A. J. Ayer. Translated by George Schick. Glencoe, Ill.: The Free Press, 1959.

- _____. The Unity of Science. Translated by Max Black.
London: Routledge and Kegan Paul, 1934.
- Chisholm, Roderick. "'Appear,' 'Take,' 'Evident.'" In
Perceiving, Sensing, and Knowing. pp. 473-85.
Edited by Robert J. Swartz. New York: Doubleday,
1965.
- _____. Perceiving: A Philosophical Study. Ithaca: Cornell
Univ. Press, 1957.
- _____. The Problem of the Criterion. Milwaukee: Marquette
Univ. Press, 1973.
- _____. "The Problem of Empiricism." In Perceiving, Sensing
and Knowing. pp. 347-54. Edited by Robert J. Swartz.
Garden City, NY: Doubleday, 1965.
- _____. "On the Nature of Empirical Evidence." In Empirical
Knowledge. pp. 224-49. Edited by Roderick Chisholm
and Robert J. Swartz. Englewood Cliffs, NJ: Prentice-
Hall, 1973.
- _____. Theory of Knowledge. Englewood Cliffs, NJ: Prentice-
Hall, 1966.
- Chisholm, Roderick and Keim, Robert. "A System of Epistemic
Logic." Ratio 15 (1972):99-115.
- Ducasse, C. J. "Introspection, Mental Acts, and Sensa."
Mind 45 (1936):181-92.
- _____. "Moore's 'The Refutation of Idealism.'" In The
Philosophy of G. E. Moore. pp. 224-52. Edited by Paul
Arthur Schlipp. New York: Tudor, 1952.
- _____. Truth, Knowledge, and Causation. London: Routledge
and Kegan Paul, 1968.
- Ewing, A. C. Idealism: A Critical Survey. 3d ed. London: Methuen,
1961.
- Firth, Roderick. "Coherence, Certainty, and Epistemic Priority."
Journal of Philosophy 61 (1964):545-57.
- _____. "Ultimate Evidence." In Perceiving, Sensing,
and Knowing. pp. 486-96. Edited by Robert J. Swartz.
New York: Doubleday, 1965.
- Fogelin, Robert J. Meaning and Evidence. London: Routledge
and Kegan Paul, 1967.
- Goodman, Nelson. "Sense and Certainty." In Problems and
Projects. pp. 60-68. Indianapolis: Bobbs-Merrill, 1972.

- _____. The Structure of Appearance. Cambridge: Harvard Univ. Press, 1951.
- Green, T.H. Prolegomena to Ethics. 5th ed. Edited by A. C. Bradley. Oxford: Clarendon, 1906.
- Heidelberger, Herbert. "Chisholm's Epistemic Principles." Nous 3 (1969):73-82.
- Hempel, Carl G. "Inductive Inconsistencies." In Aspects of Scientific Explanation. pp. 53-79. New York: The Free Press, 1965.
- _____. "On the Logical Positivists' Theory of Truth." Analysis 2 (1935):49-59.
- Hicks, G. Dawes. "The Nature of Sense-Data." Mind 21 (1912): 399-409.
- Hirst, R. J. The Problems of Perception. London: George Allen and Unwin, 1959.
- Jaeger, Robert A. "Implication and Evidence." Journal of Philosophy 72 (1975):475-85.
- Keim, Robert and Chisholm, Roderick. "A System of Epistemic Logic." Ratio 15 (1972):99-115.
- Lewis, C. I. Mind and the World Order. New York: Scribner's, 1929; reprinted New York: Dover, 1956.
- Mackenzie, J. L. "The New Realism and the Old Idealism." Mind 15 (1906):308-28.
- Moore, G. E. "A Reply to My Critics." In The Philosophy of G. E. Moore. 2d ed. pp. 78-83. Edited by Paul Arthur Schlipp. New York: Tudor, 1952.
- _____. "Are the Materials of Sense Affections of the Mind?" Proceedings of the Aristotelian Society 17 (1916-17): 418-29.
- _____. "The Nature and Reality of Objects of Perception." In Philosophical Studies. pp. 31-96. London: Routledge and Kegan Paul, 1922.
- _____. "On the Nature of Judgement." Mind 8 (1899):176-93.
- _____. "The Refutation of Idealism." In Philosophical Studies. London: Routledge and Kegan Paul, 1922.
- _____. "Some Judgements of Perception." In Philosophical Studies. London: Routledge and Kegan Paul, 1922.

- _____. "The Status of Sense-Data." In Philosophical Studies. London: Routledge and Kegan Paul, 1922.
- Neurath, Otto. "Protocol Sentences." In Logical Positivism. pp. 199-208. Edited by A. J. Ayer. Translated by G. Schick. Glencoe, Illinois: The Free Press, 1959.
- Nunn, T. P. "Are Secondary Qualities Independent of Perception?" Proceedings of the Aristotelian Society 10 (1909-10): 191-218.
- Peirce, C. S. Philosophical Writings of C. S. Peirce. Edited by Justus Buchler. New York: Dover, 1955.
- Popper, Karl. The Logic of Scientific Discovery. 2d ed. New York: Harper and Row, 1968.
- _____. Objective Knowledge. Oxford: Clarendon, 1972.
- Price, H. H. Perception. 2 ed. London: Methuen, 1954.
- Prichard, H. A. "Appearances and Reality." Mind 15 (1906); reprinted in Realism and the Background of Phenomenology. pp. 143-50. Edited by Roderick Chisholm. Glencoe, Ill.: The Free Press, 1959.
- _____. Knowledge and Percepton. Oxford: Clarendon, 1950
- Quine, W. V. O. Word and Object. Cambridge: MIT Press, 1960.
- Quinton, Anthony. The Nature of Things. London: Routledge and Kegan Paul, 1973.
- Russell, Bertrand. The Analysis of Mind. London: George Allen and Unwin, 1921.
- _____. "On Denoting." Mind 14 (1905); reprinted in Logic and Knowledge. pp. 41-56. Edited by Robert C. Marsh. New York: Capricorn, 1971.
- _____. On Our Knowledge of the External World. London: George Allen and Unwin, 1914.
- _____. The Problems of Philosophy. London: Oxford Univ. Press, 1912.
- Schlick, Moritz. "The Foundation of Knowledge." In Logical Positivism. pp. 209-27. Edited by A. J. Ayer. Translated by D. Rynin. Glencoe, Ill.: The Free Press, 1959.
- Stace, W. T. "The Refutation of Realism." Mind 43 (1934):145-55.
- Strong, C. A. "Has Mr. Moore Refuted Idealism?" Mind 14 (1905): 174-89.

Wisdom, J. O. "The Analysis of Sense-Data." Analysis 2 (1934-5):78-80.