

PERCEIVING:

A Philosophical Study

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Excerpts of Chs 4-5, 8-10.

Chapter Four

Three Uses of Appear Words

1. By considering the word "appears" as it is intended in the first of our definitions—the definition of the prepositional sense of "perceive"—we will be led to one mark of evidence. According to that definition a man *perceives* something to have a certain characteristic, or perceives *that* the thing has the characteristic, provided, first, he takes the thing to have the characteristic, secondly, he has adequate evidence for so doing, and, thirdly, the thing *appears* to him in some way.

Appear words—"appear," "seem," "look," "sound," "feel," "smell," and the like—have many uses, and we shall find in subsequent chapters that some of these uses involve us in additional philosophical questions. In the present chapter we will restrict ourselves to those features of their ordinary use which happen to throw light upon the problem of "the criterion."

2. If I say that the ship "appears to be moving," or that it "looks as though" or "sounds as though" it were moving, using the appear words in one familiar way, then it may be inferred

that I believe, or that I am inclined to believe, that the ship *is* moving. When appear words are used in this way, then such locutions as "x appears to S to be so-and-so" and "x appears so-and-so to S" may be taken to imply that the subject S believes, or is inclined to believe, that x is so-and-so. And I think that, in this same use, they may be also taken to imply that the subject S has *adequate evidence* for believing that x is so-and-so. What is expressed by "The ship seems to me to be moving" may also be expressed by "*Apparently—or evidently—the ship is moving.*" Let us refer to this use of appear words as their *epistemic* use.¹

The locutions "x appears to S to be so-and-so" and "x appears so-and-so to S" sometimes do *not* imply that the subject S believes, or is even inclined to believe, that x is so-and-so. I tell the oculist that the letters on his chart "now appear to run together" because both of us know that they do not run together. And when people point out that straight sticks sometimes "look bent" in water, that loud things "sound faint" from far away, that parallel tracks often "appear to converge," or "look convergent," that square things "look diamond-shaped" when approached obliquely, they do not believe that these things have the characteristics which they appear to have. In these instances "x appears so-and-so" does not mean that x is apparently so-and-so.

It must not be supposed, however, that appear words, in this second use, imply the negations of the corresponding sentences about believing. I may tell the oculist, when he has changed the lenses, that the letters "no longer appear to run together." And one may say that the stick "looks straight again now that it is

¹ In a review of A. J. Ayer's *The Foundations of Empirical Knowledge* (*Mind*, L [1941], 293), H. H. Price refers to the "epistemic use" of appear words and distinguishes this use from other uses. Compare C. D. Broad, *Scientific Thought* (London, 1923), pp. 236-237, and A. M. Quinton, "The Problem of Perception," *Mind*, LXIV (1955), 28-51.

out of the water," that from some points of view square things "look square," that loud whistles often "sound loud," and that many parallel lines "do not appear to converge."

Using appear words in the present nonepistemic sense, we may say that the railroad tracks "look convergent" if they look the way two converging lines would ordinarily be expected to look if both were visible at once. A photograph faithfully representing the way the railroad tracks look would contain two lines that *are* convergent. If we can say that the rectangular table-top "looks diamond-shaped" from one corner of the room, then a photograph taken from that corner of the room, will contain a figure that is diamond-shaped. For the point of the locution "x appears so-and-so," in its present sense, is to compare x with things that *are* so-and-so. Let us speak, then, of the *comparative* use of appear words.

When we use appear words comparatively, the locution

x appears to S to be ...

and its variants may be interpreted as comparing x with those things which have the characteristic that x is said to appear to have. A more explicit rendering of such locutions, therefore, would be something like this:

x appears to S in the way in which things that are ... appear under conditions which are. . . .

The way in which we should complete the reference to conditions in the second part this locution varies, depending upon the conditions under which the appear sentence is made. In some cases, "That thing appears red," when intended in its comparative sense, may mean the same as "That thing appears in the way in which red things might normally be expected to appear." In other cases, it may mean, more explicitly, that the thing appears in the way in which red things might normally be expected

to appear *under present* conditions; in still other cases, it may mean that the thing appears in the way in which red things might normally be expected to appear under *ordinary*, or *more usual*, conditions. And occasionally "That thing appears red" may mean that the thing appears in the way in which red things would appear under "optimum conditions"—under the conditions which are "most favorable" for perceiving such things.² In most cases, the context in which a comparative appear sentence is uttered will enable us to determine what types of conditions are intended.³ But, however these conditions are to be described, the essential point about the comparative use of "appears so-and-so" is that the sentences in which it is to be found can be translated into other sentences referring to things which *are* so-and-so. Using "appear" in its comparative sense, we may say that the

² What these "optimum" or "most favorable" conditions are varies considerably, depending upon the type of predicate which we say that *x* appears to have. Some of these conditions are indicated in the following quotation: "A thing is said to 'look round' when it presents the quale [appearance] which a really round object does when held at right angles to the line of vision; and a thing is said to 'look blue' when it looks the way a really blue thing does under usual or standard illumination. In general, the name of the property is also assigned to the appearance of it under certain optimum conditions. The penny *looks* round when held at that angle at which judgment of actual shape from visual appearance is safest. And an object *looks* the color that it is under that illumination which is conducive to accurate discrimination. A thing looks as big as it is at about that distance (for objects of its size) at which human beings make fewest mistakes in judgments of magnitude" (C. I. Lewis, *Mind and the World-Order* [New York, 1929], pp. 122-123). I think that this passage is mistaken only in its suggestion that "x appears . . ." in its comparative use, may *always* be translated as "x appears the way in which things that are . . . appear under optimum conditions for viewing things which are . . ."

³ But when philosophers make statements about "things appearing the way they really are," using appear in its comparative sense, they would be well advised, I think, to translate their statements into explicit comparative statements having the form illustrated above.

way things appear to us depends, not only on the nature of the things, but also on the conditions under which we perceive them. The things we perceive may be made to appear in different ways merely by varying the conditions of observation or by distorting our perceptual apparatus.

The same water which feels very hot when poured on inflamed spots seems lukewarm to us. And the same honey seems chilly to the old but mild to those in their prime, and similarly the same sound seems to the former faint, but to the latter clearly audible. The same wine which seems sour to those who have previously eaten dates or figs seems sweet to those who have just consumed nuts or chick-peas; and the vestibule of the bath-house which warms those entering from the outside chills those coming out.⁴

These ancient examples remind us that there is a close connection between the "epistemic" and "comparative" uses of appear words; for the sentences in which the examples are described may be taken in either or in both of these senses. In saying that water "feels hot" to the man whose skin is inflamed, our philosopher may be telling us both (a) that the water feels the way hot water might normally be expected to feel and (b) that the man who feels it takes it to *be* hot—that he believes, say, that the water is ready to boil. We often use appear locutions in their epistemic sense because of the fact that we can also apply them in their comparative sense. A man who is not a professional winetaster may find that his wine looks and tastes like Burgundy and conclude, on the basis of this finding, "Apparently it is Burgundy." But we may also use "appear" in its epistemic sense when we would not use it in its comparative sense. One may say, on a hilltop, "The roads appear to be parallel" because the roads, like railroad tracks, appear to converge.

⁴ Sextus Empiricus, *Outlines of Pyrrhonism*, bk. I, abridged from pp. 55, 65, and 63 of vol. I of *Sextus Empiricus* (Loeb Classical Library).

Ordinarily the context in which an appear statement is made will tell us whether the appear words are to be taken epistemically or comparatively. But the statements made by philosophers and psychologists are sometimes unclear in this respect. The following statement, describing the familiar phenomenon of perceptual constancy, is true if "appear" is taken in its epistemic sense but false if it is taken in its comparative sense.

As I stand to one side and look at the top of a circular table, it does not appear as the narrow ellipse that its retinal image is, that the artist would sketch in his projection of the scene. Although every room is full of rectangles, they are perceived not as various diamonds and distorted rectangles, but approximately in their true proportions. The brain corrects the perception for the angle of projection.⁵

(The expression "are perceived . . . as," which occurs in the second sentence of this quotation, should be read as a synonym for the epistemic sense of "appear to be," but not as a synonym for "are perceived to be" or for the comparative sense of "appear to be.")

3. I have tried to describe our comparative use of "appears so-and-so" by our use of "is so-and-so." Any sentence with an appear word—"appear," "seem," "look," "sound," "feel," "smell," "taste"—used in its comparative sense may be translated into a sentence describing the way in which a certain type of physical thing appears. More specifically, any sentence containing an expression that describes the way in which something appears, in the comparative sense of "appear," must be capable of translation into another sentence with that expression used

^B E. G. Boring, "The Perception of Objects," *American Journal of Physics*, XIV (1946), 99. Compare Gilbert Ryle's statement: "Round plates, however steeply tilted, do not usually look elliptical" (*The Concept of Mind* [London], 1949, p. 216). We must also beware of the philosophical question, "Does the thing appear the way it really is?"

to describe a property or characteristic of some physical thing. "That apple looks red from here," when intended in this way, may be taken as short for "The apple looks the way you would expect a red apple to look." In the first sentence, "red" seems to designate a way of appearing; in the second, it designates a property or characteristic of certain apples.⁶ To know that an apple looks red, in the comparative sense of "look," one must know something about red things—something about the way in which red things would ordinarily look. If there were a man who knew nothing of red things, he could never tell, merely by looking, that anything looks red. If you knew nothing of Arabian music, you could never tell, merely by listening to someone play, whether or not his music happens to "sound Arabian."

The foregoing might be summarized in the following way: The locution "appears so-and-so," in its ordinary comparative sense, may be defined as meaning the same as some locution describing the way in which things that *are* so-and-so appear. Hence we cannot know how to apply "appears so-and-so," in this sense, until we know how to apply "so-and-so." And therefore, if we are not familiar with things that are so-and-so, we may be quite uncertain, on any given occasion, whether anything is appearing so-and-so.

These conclusions are of philosophical interest because each one seems to be inconsistent with what philosophers in the empirical tradition have said about appearing. Indeed, we might describe *empiricism*, in one of the many senses of this word, in terms of beliefs which would seem to contradict what we have just said. We could say—with some oversimplification—that, according to the *empirical* view of the genesis of our knowledge, the following propositions are true:

"(a) If there is a predicate 'so-and-so/' which is commonly

^B I shall discuss certain features of the "grammar" of these uses of adjectives in Chapters Eight and Nine.

applied, both to ways of appearing and to the properties of things, as 'red' is applied both to apples and to the way such apples generally look, then the property use of 'so-and-so' may be defined in terms of '*appears so-and-so*.' The predicate 'red,' for example, as it is intended in its ordinary application to such things as apples and roses, may be defined in terms of 'appears red'; an apple may be said to *be* red if and only if it *appears* red under optimum conditions. Hence (b) we cannot know how to apply any such predicate 'so-and-so' until we know how to apply 'appears so-and-so.' We cannot know that an apple is red unless we know either that it sometimes appears red or that something else, which we know to be very much like the apple, sometimes appears red. But (c) even if we should not happen to know whether anything *is* so-and-so, we can be certain, with respect to anything appearing to us, either that it is or that it isn't *appearing* so-and-so. If I do not know whether the apple I'm looking at is red and even if, for some strange reason, I don't happen to know whether anything is red, I can be quite certain either that something now *looks* red to me or that nothing does."⁷

This "empirical" doctrine can be understood only by referring to a third use—the *noncomparative* use—of appear words.

4. When "looks red" is taken in its comparative sense, the statement

(1) The mountainside looks red

entails some statement, of the following sort, about things that *are* red:

(2) The mountainside looks the way red things look in daylight.

⁷ The first of these theses is discussed in the Appendix, the second in Chapter Nine, Section 4, and the third in Chapter Five, Section 4.

Possibly "in daylight" should be replaced by a different expression; what this expression is may vary from one person to another—depending upon his "language system." The essential point is this: When "looks red" is used comparatively, it may be replaced by an expression of the form "looks the way red things look under . . . conditions," and the statement resulting from such replacement *is* entailed by the original statement.

But when "looks red" is used *noncomparatively*, in a statement of the form "*x* looks red," the statement does not *entail* any statement of the form "*x* looks the way red things look under . . . conditions." If "looks red" is taken noncomparatively in (1), then (1) does not *entail* (2)—even though (1) may be true only if (2) is true.

When "looks red" is used comparatively, the statement

(3) Things which are red look red in daylight

is analytic, for it says, of the way red things look in daylight, only that it is the way red things look in daylight. (The reservation, made above concerning the occurrence of "in daylight" in (2), applies also, of course, to (3).) But when "looks red" is taken *noncomparatively*, (3) is synthetic—an "empirical generalization."⁸

Many other expressions, of the form "appears so-and-so," have comparative and noncomparative uses which may be distinguished in a similar way. Possibly there is no good reason for supposing that, in ordinary language, there is, for each such expression, just one comparative and one noncomparative use, invariant for all people. But I suggest that, for each of us who uses such expressions, there are, for many of these expressions, both

⁸ The predicate "red," as it is used in (2) and (3), should be taken in its "physical" sense, as referring to the capacity of things to reflect lightwaves of a certain sort. I shall discuss this sense of "red" in Chapter Nine.

comparative and noncomparative uses. The "empirical" view, just described, was formulated in statements using such expressions noncomparatively.

These relations between the comparative and the noncomparative uses of appear words may be further illustrated by contrasting two possible uses of the expression "speaks French." If we define "Frenchman" geographically, as a person who was born in France, we might define "the French language" as the language which is spoken by the majority of Frenchmen; or we might define it by reference to its vocabulary and rules of grammar. In the first case, we would say that the statement

(1') John speaks French

entails the statement

(2') John speaks the language spoken by most Frenchmen.

And the statement

(3') Most Frenchmen speak French

would be analytic. But in the second case, where we define the French language, not by reference to those who speak it, but by reference to its vocabulary and grammar, (1') does not entail (2')—even though, in fact, (1') is true only if (2') is true. And in this second case, (3') is synthetic, an "empirical generalization." Anyone who could be said, in the one use, to speak French could also be said, in the other use, to speak French. But a man who knew nothing about the vocabulary and grammar of the language spoken by most Frenchmen might know that one of the two statements, (1') and (2'), is true, without knowing that the other is also true.

In Chapter Eight, the noncomparative use of appear words will be discussed in more detail. At present we are concerned only with its epistemic significance.

When "The mountainside looks red to me" is taken non-

comparatively, it becomes a statement I can know to be true even if I don't happen to know anything about the way in which red things ordinarily appear; I may know that (1) is true without realizing that (2) is also true. More generally, when we take the locution "*x* appears so-and-so to S" noncomparatively, we can say that the subject S, referred to in such a statement, can know whether the statement is true even if he knows nothing about things which *are* so-and-so.⁹ Such statements, as we shall now see, describe marks of evidence.

⁹ In *An Analysis of Knowledge and Valuation* (LaSalle, Ill., 1946), C. I. Lewis speaks of the "expressive use" of language. Although his terminology is quite different from that used here, I believe that what he means by "expressive use" is the same as what I mean by noncomparative use." But I have tried to discuss these questions without introducing such terms as "the given," "immediate awareness," "direct experience," or "acquaintance." Compare also William Kneale, "Sensation and the Physical World," *Philosophical Quarterly*, I (1951), 151.

Chapter Five

Justification and Perception

1. When we wish to *test* or *confirm*, a statement, we seek out *new* evidence. We may take a closer look, interview witnesses, and perform experiments. But when we wish to *defend* or *justify* a statement, we appeal to the evidence which happens to be at hand. We weigh the evidence and try to show, in effect, that the statement is probable in relation to that evidence. In defending the statement, we may also submit it to further test. But testing is no substitute for justifying. After we have made our tests and added to the evidence at hand, we must weigh the evidence once again and ask whether, in the light of our new store of evidence, the statement we have tested is one which is itself acceptable or evident.¹ The defense or justification of most of the statements we

¹ C. I. Lewis makes a similar distinction in *An Analysis of Knowledge and Valuation*, ch. ix. Compare John Ladd, *The Structure of a Moral Code* (Cambridge, Mass., 1957), ch. viii-ix; A. D. Woozeley, "Knowing and Not Knowing," *Proceedings of the Aristotelian Society*, vol. LIII (1953); and Stephen Toulmin, "Probability," *ibid.*, suppl. vol. XXIV (1950).

make will refer, at least in part, to what we *perceive* or to what we *have* perceived. But our claims to perceive may themselves be challenged, and when they are, it is appropriate that we try to defend or to justify *them*. In the present chapter, I shall consider the way in which we do defend, or justify, our "perceptual claims." I shall try to make explicit what seems to be the characteristic "pattern" of such defense. We will then be in a position to consider two marks of evidence, two solutions to the problem of the criterion.

In this chapter and in the one that follows, I will not hesitate to attribute *evidence* to certain types of proposition or statement—propositions or statements which, I believe, most of us would agree to be evident. I shall attribute *evidence* to these propositions in the way in which a moral philosopher might attribute *Tightness* to certain types of action. In the chapter following the next one, I shall consider what is involved in such attribution—what is meant, or conveyed, by the language in which it is expressed, and how we are to choose among conflicting theories of evidence.

2. We may begin by considering a "perceptual claim" made in wholly ordinary circumstances.

Let us suppose that you say to me, as we are riding through New Hampshire, "I see that that is Mt. Monadnock behind the trees." If I should ask, "How do you know it's Monadnock?" you may reply by saying, "I've been here many times before and I can *see* that it is." If the matter happens to be of some importance and if I still have my doubts about what you claim to see, I will not ask you, of course, to defend or justify what you *see*. What you *see* is not the sort of thing that can be, or needs to be, justified; if you *do* see that it is Mt. Monadnock behind the trees, then you have all the justification you need for believing it is there. But I may ask, "What makes you *think* that's Monad-

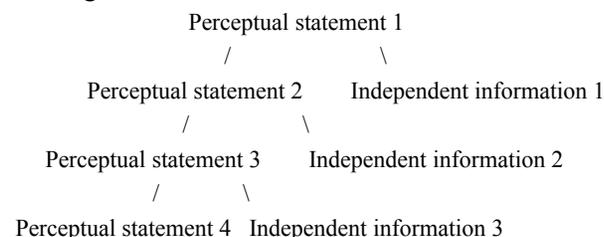
nock that you see?" Or, using slightly different terms, I may ask, "What reason do you have for *taking* that to be Monadnock?" In the first case, I seem to be asking you to justify, not your perception of Mt. Monadnock, but your *belief* that you perceive it. In the second case, I seem to be asking you to justify another sort of act—your *taking* something to be Mt. Monadnock. But in either case the question calls for an inductive answer—an appeal to other statements in relation to which "That is Mt. Monadnock" may be said to be more probable than not.

An appropriate answer to my question would be this: "I can see that the mountain is shaped like a wave and that there is a little cabin near the top. There is no other mountain answering to that description within miles of here." What at first was justified merely by reference to perception ("I see that that is Mt. Monadnock") now seems to have the status of a hypothesis justified inductively by reference to a *different* perception. For what you now claim to see is, not that the mountain is Monadnock, but merely that it has a shape like a wave and that there is a cabin near the top. And this new "perceptual statement" is coupled with a statement of independent information ("Monadnock is shaped like a wave and there is a cabin near the top; no other mountain like that is within miles of here")—information acquired prior to the present perception. The new "perceptual statement" is considerably more modest than was the first.

If I remain unconvinced that Monadnock is the mountain you see, I may challenge (1) some one of your claims to independent information ("Why do you say that no other hills of that shape are near by?") or I may challenge (2) one of your new perceptual statements ("What makes you think you see a cabin near the top?"). If I take the second course, challenging your new perceptual statement, and if you continue to tolerate my questions, your reply, once again, is likely to consist of a

new perceptual statement and a new claim to independent information. In defending your claim to see a *cabin*, perhaps you will say: "I see that it's more or less rectangular and that it's dark blue. I remember that there's such a cabin on Monadnock. It isn't probable that that thing could be anything else." (Or, at this point, instead of saying, "I see that . . .," you may be more likely to say, "Don't you see that . . .?").

We could say that the process we have been considering has a "pattern" or "form" like that of the following tree:



I do not mean to suggest that such cross-examinations are likely to occur or to be tolerated. The point is, rather, that each perceptual statement of our example is one which, if it were defended, would be replaced by another perceptual statement and a statement purporting to express independent information.²

If we could continue the process of questioning and defending, thus adding lower branches to our tree, the contribution of perception might seem to become smaller. We would find the perceiver attributing more and more to information taken to be independently justified and less and less to his present perception. And we would reach a point where we find him making no *perceptual* claim at all.

² Compare Roderick Firth's description of "perceptual reduction" in "Sense-Data and the Percept Theory," *Mind*, LVIII (1949), especially 458 ff. See also A. M. Quinton, "The Problem of Perception," *Mind*, XLIV (1955), 28-51.

The question "What makes you say that the cabin is blue?" might not be tolerated in the circumstances of our example. And, if it were, the obvious reply would be: "Take a look for yourself!" But let us rule out the possibility of this reply, and let us assume that our perceiver is willing to co-operate. He will, then, reply in some such way as this: "Well, it *looks* blue from here. And if a thing that far away looks blue in this light then, in all probability, it *is* blue." When the perceiver replies in this way, he makes two claims once again: (1) he describes the way something appears and (2) he makes a generalization connecting such ways of appearing with certain characteristics of physical things. But he is no longer telling us what he *sees*.

We have been discussing the way in which a single perceptual claim—a claim to *see that* a certain state of affairs exists—might be defended. But the defense of any perceptual claim at all, whether it be a claim to see that a certain state of affairs exists, or to hear that one does, or to perceive by some other sense that it does, would exhibit a similar pattern. A perceiver, submitting to a similar cross-examination, would seem to replace his original perceptual claim by another, more modest perceptual claim; he would then replace the second by still another; and so on, until finally he makes no perceptual claim at all, but says something about what *appears*.

3. When our perceiver makes no perceptual statement, but refers instead to what appears, may we continue our cross-examination? What if we were to challenge his appear statement—"Well, it looks blue from here"—in the way we challenged his earlier perceptual statements?

In saying that something *looks* blue, our perceiver may mean to *compare* the thing he is looking at with other things—say, with lilacs, or the sky, or with a certain portion of the color chart. If this is what he intends, then his appear statement may

be given a more explicit formulation. We noted, in the previous chapter, that "comparative" appear statements, of the form

x appears ... to S

may be rendered in some such way as this:

x appears to S in the way in which things that are ... might normally be expected to appear.

(Possibly the words "might normally be expected to appear" should be replaced; but this replacement would not affect any principle involved in what I am now trying to say.) If the statement "It looks blue from here" is to be taken in this comparative sense, then, like the statements above it on the left side of our tree, it is a statement whose defense would involve still *another* statement of independent information. The perceiver is now saying that there is a certain manner of appearing, *f*, which is such that (1) something now appears *f* and (2) things that are blue may normally be expected to appear *f*.

If we use the adjective "blue" where I have used the letter "*f*" just now, then "appears blue" should no longer be taken in its comparative sense. For the statement of independent information—"Things that are *f* (blue) may normally be expected to appear *f* (blue)"—is to be interpreted as a synthetic, non-logical generalization. It does not say merely that things that are blue may normally be expected to appear in the way in which things that are blue may normally be expected to appear. It says, rather, that things that are blue may normally be expected to appear in the way in which (as it happens) this thing now appears. The expression "appears blue" now has what we have called its noncomparative use.

The second of our perceiver's two claims about appearing—his claim that things that are blue may normally be expected to look blue, in the noncomparative sense of "look blue"—is one

which, once again, might be defended by an appeal to independent information, possibly by an appeal to what the perceiver remembers. He may recall that the sky, or lilacs, or a certain portion of the color chart usually appears in this particular way. But the *first* of his two claims about appearing, his claim that something now looks blue, does not depend upon this "independent" information. For even if this ostensible information is not information at all, even if the perceiver were mistaken with respect to what he thinks he remembers about the way in which lilacs and the sky and other blue things appear, it would not follow that he is mistaken in saying that something now looks *f*—that something now looks blue, in the noncomparative sense of "looks blue." And even if he were to modify his second claim, his appeal to independent information, saying merely, "This appears the way I *seem* to remember that blue things normally appear," the first claim *is* still distinct from the second. For what he now says, with respect to the manner of appearing, *f*, is (1) that something now appears *f* and (2) that he seems to remember that blue things ordinarily appear *f*.

Perhaps it is well to note that the statement expressing our perceiver's present claim—"Something now appears blue"—cannot be translated as "Something now appears in the way intended by my use of the expression 'appears blue.'" The latter statement, unlike the former, is a statement about language; to suppose that the one is a translation of the other is to confuse the *use* of language with the *mention* of language. Moreover, if there were reason to suppose that "Something now appears blue" is short for "Something now appears in the way intended by my use of the expression 'appears blue,'" then there would also be reason to suppose that the second of these sentences, in turn, is short for "Something now appears in the way intended by my use of the phrase 'intended by my use of the expression 'appears blue,''" and the new sentence, again, for "Something

now appears in the way intended by my use of the phrase 'intended by my use of the phrase "intended by my use of the expression 'appears blue,''" and so on. A similar objection applies to the thesis that "Something now appears blue" must, *in principle*, be comparative. It is sometimes supposed that every predicate is essentially comparative; that when we say something is *red*, for example, our intention is to *compare* that thing with *some* standard (possibly with what we remember as being red); and, more generally, that whenever we express ourselves in a statement of the form "*x* is *f*," our belief is one which could be more adequately expressed in a statement of the form "*x* is similar to the standard *f*." But if this thesis were true, then what is expressed by "*x* is similar to the standard *f*" would be even more adequately expressed by "*x* bears to the standard *f* a relation which is similar to the standard (first-order) similarity"; and so on.³

Returning now to our cross-examination, suppose we were to ask, "What makes you think something appears blue?" using the expression "appears blue" noncomparatively. What would be the point of this question?

It could be said, of a victim of hallucination, that although he is sensing an appearance, he is not sensing an appearance *of* anything.⁴ Hence, if we ask, "What makes you think something appears blue?" we may mean to challenge our perceiver's claim that there is *something* which is appearing. If he were to accept our challenge and try to justify his assumption that he is not thus a victim of hallucination, he would refer again to his independent information—to information about conditions of observation and, possibly, about his own physiological or psy-

³ Bertrand Russell has used this type of argument in a somewhat different connection; see *An Inquiry into Meaning and Truth* (New York, 1940), pp. 68-69, 345 ff.

⁴ See Chapter Ten, Section 6.

chological state. In so doing, he would add another lower branch to the left side of our "tree." What of the right side of the tree? How would he formulate that more modest claim which now expresses his appeal to experience? If he were a philosopher, he might introduce a technical vocabulary. Another possibility would be to use the verb "appear" in the passive voice, saying, somewhat awkwardly, "I am appeared to blue," or "I am appeared to in a way which is blue."⁵

What, now, if we were to challenge our perceiver once again, asking, "What makes you think you are appeared to in a way which is blue?"

To *this* question, surely, the only appropriate reply—if any reply at all is appropriate—is "I just am."⁸ Conceivably, our perceiver might provide additional information which would justify *us* in believing that he is "appeared blue to." But if he wished to describe *his own* justification for asserting the appear statement, he could do little more than to repeat his statement.⁷ But this "defense by repetition" is never appropriate as a defense of a *perceptual* statement, a statement which could be prefixed by "I see that . . ." or "I perceive that . . ."

There is an important *epistemic* difference, then, between statements expressing our perceptual beliefs and some statements describing the ways in which we are "appeared to."

4. There are two ways of describing the epistemic status of the "I am appeared to blue" of our example.

⁶ In Chapters Eight and Ten, I shall elaborate upon the distinction between "x appears so-and-so to S" and "S is appeared to so-and-so." I shall propose that the active verb "to sense" be used in place of the passive form of "to appear."

⁸ Compare Moritz Schlick, "Über das Fundament der Erkenntnis," *Erkenntnis*, IV (1954), 91, reprinted in *Gesammelte Aufsätze* (Vienna, 1938), p. 302. See also A. M. Quinton, *op. cit.*, p. 34 ff.

⁷ If he were a philosopher, he might also make the point—to be discussed below—that "justification" may not be appropriate in this context.

We could say that our subject is *certain* of the truth of "I am appeared to blue" and that he is *not* certain of "The cabin on the hill is blue." In Chapter One, it may be recalled, I proposed to define "S is, certain that *h* is true" by saying (i) that S knows that *h* is true and (ii) there *is* no *i* such that *i* is more worthy of S's belief than *h*. If we say that "I am appeared to blue" is *certain* for our subject, we mean that, for any other proposition, if he were forced to choose between that other proposition and "I am appeared to blue," he should *not* choose in favor of that other proposition. We could say, of the proposition attributed to perception—"The cabin on the hill is blue"—that, even though our perceiver may know it to be true, he is not certain of it, in the present sense of the word "certain." For if he *were* to find himself in a position where he had to choose between "The cabin on the hill *is* blue" and "I am now appeared to blue," he ought to choose the latter and reject the former. And he might find himself in such a position if he *were* to acquire adequate evidence for rejecting some of the statements expressing his "independent information"—if, say, he were to acquire adequate evidence for the hypothesis that, as a result of something he had eaten, only black things will appear blue to him. (An analogous situation is suggested if we *consider* a committee, appointed to elect several candidates. The committee may decide that Jones is a more acceptable candidate than is Smith and yet, quite consistently, also decide that both should be accepted. Their decision could be expressed this way: "As long as we don't have to choose between them, our decision that one is more acceptable than the other won't affect our choice. But if we *were* to find ourselves in a position where we had to accept one or the other and couldn't accept both, then—since Jones is the more acceptable of the two—we ought *to* accept Jones and reject Smith.") There are some philosophers, however, who would hesitate to say that "I am appeared to blue"

is certain, or even that it is a statement which our perceiver *knows* to be true.

Hegel pointed out that a man is not worthy of being called "virtuous" unless he has known at least the temptation to sin; "virtue" is not appropriate in application to a state of pure innocence. Similarly, perhaps we should be reluctant to say that a man has attained a state of *knowledge*, or of *certainty*, unless he has at least run the risk of error. But, one could ask, where is the risk of error in the case of "I am now appeared to blue," when the statement is interpreted noncomparatively? Is it possible for me to be "appeared blue to" while I believe that I am not, or for me to believe that I am not "appeared blue to" at a time when I am? If we take "appear" in its *comparative* sense, then, of course, it *is* possible for me to be "appeared blue to" at a time when I do not believe that I am, and for me to believe that I am at a time when, in fact, I am not. For it may be that, because of unfamiliarity with things that are blue, I have a mistaken belief about the way in which blue things would ordinarily be expected to appear. But if "appear blue" is taken noncomparatively, then, surely, such mistakes cannot be made.⁸ For *appearing blue*, in that sense, is one of

⁸ Compare these remarks by C. S. Peirce (I think his term "percept" may be taken to mean the same as "appearance"): "If I judge a perceptual image to be red, I can conceive of another man's not having that same percept. I can also conceive of his having this percept but never having thought whether it was red or not. I can conceive that while colors are among his sensations, he shall never have had his attention directed to them. Or I can conceive that, instead of redness, a somewhat different conception should arise in his mind; that he should, for example, judge that this percept has a warmth of color. I can imagine that the redness of my percept is excessively faint and dim so that one can hardly make sure whether it is red or not. But that any man should have a percept similar to mine and should ask himself the question whether this percept be red, which would imply that he had already judged *some* percept to be red, and that he should, upon careful attention to this percept, pronounce it to be decidedly and clearly not red, when I judge it to be prominently

many ways of appearing which are such that, for any person at all, whenever that person is appeared to in one of those ways, it is false that he believes that he is *not* being appeared to in that particular way; and whenever he is not being appeared to in one of those ways, it *is* false that he believes that he *is* being appeared to in that particular way.

Hence if we do not say, of such statements as "I am now appeared to in a way which is blue," when intended noncomparatively, that they are *certain*, we should say, at least, that they are statements which cannot express any error or mistake. For if our perceiver cannot be said to believe, at a time when he is being "appeared blue to," that he is not being "appeared blue to," or to believe, at a time when he *is* not, that he is, then he cannot be said to believe erroneously or mistakenly at any time either that he is or that he is not being thus "appeared to." Perhaps we should say, more technically, that the appear statements in question are statements with respect to which it would "make no sense" to say that they can express any error or mistake.

We may also say of strings of nonsense syllables that they cannot express any error or mistake. But, epistemically, our appear statements differ from nonsense syllables in one very important respect: the appear statements, unlike any string of nonsense syllables, may be used as *premises* in the application of probability and, in certain contexts, therefore, may be taken

red, *that* I cannot comprehend at all. An abductive suggestion [that is, a "belief" in the ordinary sense of the word] is something whose truth *can* be questioned or even denied" (*Collected Papers* [Cambridge, Mass., 1934], 5.186). Compare Ludwig Wittgenstein, *Philosophical Investigations* (London, 1953), 89c, and Norman Malcolm, "Direct Perception," *Philosophical Quarterly*, 111 (1953), 301-316. An interesting historical discussion of the uses of epistemic terms in such contexts as the above is M. Chastaing, "Consciousness and Evidence," *Mind*, XLV (1956), 346-358.

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as *evidence for* other statements or hypotheses. If our perceiver has adequate evidence for his hypothesis "Most of the things that look blue in this light are blue," if something now appears blue to him, and if he has no additional evidence bearing upon the thing that is now appearing blue to him, then he *also* has adequate evidence for the proposition that the thing he is looking at is something which is blue.

Using the locution "appears blue" in its noncomparative sense, let us say, therefore, that whenever any subject S is "appeared blue to," S has *adequate evidence* for the statement or hypothesis that he is thus being appeared to. And, more generally, whenever any subject is appeared to in one of the ways we have been talking about, then that subject has adequate evidence for the statement or hypothesis that he is being appeared to in that particular way.⁹

The *empirical criterion* of evidence, to which we now turn, refers to these ways of appearing. And *empiricism*, as an epi-stemic thesis, may be described as saying that the empirical criterion is the only criterion of evidence.

⁸ There is, therefore, at least one respect in which each of us may be said to have "privileged access" to the ways in which we are appeared to. What serves for *me* as a mark of evidence that I am "appeared blue to" is the very fact that I *am* appeared blue to. But what serves for *you* as a mark of evidence for the proposition that I am "appeared blue to" is some *other* fact.

Chapter Eight

Sensing

1. There is no contradiction in saying, "I realize there aren't any centaurs, but that strange animal certainly does *look* centaurian." For the statement "That animal looks centaurian" does not imply that there is anything centaurian; it does not imply that there are any centaurs. "The pail feels empty" and "The woods sound inhabited" do not imply that there is an appearance which is empty or one which is inhabited; "The curtains appear green" does not imply that there is an appearance—or a way of appearing—which is green. And, more generally, the locution

(1) x appears ... to S

does not imply

There is something which is

Should we say that "centaurian" in "That animal looks centaurian" attributes some *other* property to the look of the animal—some property other than that of being a centaur? And

should we say of "green" in "The curtains appear green" that it attributes some *other* property to the appearance of the curtains—some property other than that of being green? What would these properties be? If we are not saying of the look of the animal that it is a *centaur*, what are we saying of the look of the animal? And if we are not saying of the appearance of the curtains that it is *green*, what are we saying of the appearance of the curtains? The answer, obviously, is that "The animal looks centaurian" doesn't attribute anything to the "look of the animal" and "The curtains appear green" doesn't attribute anything to the appearance of the curtains.

The adjectives or adverbs qualifying the verb in locutions such as (i) must not be taken as predicating some characteristic of the thing the verb refers to. Rather, the complex expressions consisting of the verb followed by its modifier—the expressions "looks centaurian" and "appear green"—attribute something to what the noun, or subject of the verb, refers to. These complex expressions, whether we take them comparatively or noncomparatively, might thus be replaced by single words—for example, by "lookscentaurian" and "appearsgreen."

It is true that "look," "sound," and other appear words are sometimes used without adjectives or other ostensibly qualifying expressions. We may say, for example, "I like the way it sounds" or "Tell me how it looks." When appear words are used in this way, they may be thought of as designating genera, of which "looks green" and "sounds loud" designate more determinate species. The relation of "looks green" to "looks" is that of "green" to "color," not that of "green" to "apple."

We should be on our guard, therefore, when locution (1) above is transformed as

(2) x presents a ... appearance to S.

For statements of the form of (2) are deceptively like such

statements as "John presents an expensive gift to Mary," where the adjective attributes a property to the thing designated by the noun following it. The locutions "x takes on a ... appearance for S," "S senses a ... appearance of x," and "S is acquainted with a ... sense-datum belonging to x," which may be thought of as variants of (2), are equally misleading. Whatever else appearances may be, then, they are not "objects to a subject."¹

2. But Bishop Berkeley said that, if an oar with one end in the water looks crooked, then what one "immediately, perceives by sight is certainly crooked."² And other philosophers seem also to have thought that appearances are objects to a subject—that our locution "x appears ... to S" does entail "There is something which is . . ."³ And this assumption, as we should expect, often leads to difficulties.

Kant believed that, by means of the "first antinomy of pure reason," he had demonstrated the proposition (a) that nothing whatever exists in time—that no two things are such that one precedes or comes before the other. The proposition that things are in time, he thought, entails a contradiction; it entails that, for anything existing in time, the series of things preceding it *has* a beginning in time and also has *no* beginning

¹ G. F. Stout, "Are Presentations Mental or Physical?" *Proceedings of the Aristotelian Society*, n.s. IX (1909), 243. Compare Samuel Alexander, *Space, Time, and Deity* (London, 1920), I, 12; C. J. Ducasse, *Nature, Mind, and Death* (LaSalle, 111., 1951), pp. 287-290; and Gilbert Ryle, *The Concept of Mind*, p. 209. This general view of appearing is also to be found in Thomas Reid's *Essays on the Intellectual Powers of Man*; see Essay I, ch. i, sec. 12.

² *The works of George Berkeley*, A. C. Fraser ed. (Oxford, 1901), I, 456; my italics. The quotation appears in the *Three Dialogues between Hylas and Philonous*, Third Dialogue.

³ I should note that I made this assumption in "The Theory of Appearing," in Max Black, ed., *Philosophical Analysis*.

in time. He conceded, however, (b) that there are things which *appear* to exist in time—that some things appear to precede or come before others. And he took (b) to imply (c) that *appearances* of things do exist in time. Time, together with space, he said, constitutes the "form of intuition"—the way in which we *must* sense appearances: this form, according to Kant, "is not to be looked for in the object in itself but in the subject to which the object appears; nevertheless it belongs really and necessarily to the appearance of this object."⁴ Kant did not notice, apparently, that his propositions (a) and (c) are contradictory. For if appearances really and necessarily are in time, then it is false to say that nothing whatever exists in time.⁵

It was a similar mistake, I think, which once led Professor Ayer to suggest that the appearance of a striped tiger could have many stripes and yet no definite number of stripes. The stripes on a tiger, he said, may "look to be numerous" and yet they may not "look to be of any definite number." And therefore, he inferred, we may say of the appearance of the tiger "that it contains a number of stripes without containing any definite number."⁸

There are philosophers who would say, similarly, that if a black piece of coal happens to look blue, then there is a certain thing *a*—not the piece of coal but its appearance or way of looking—which *is* blue. The appearance or way of looking, *a*, has at least one attribute which it shares with many physical things; for *a*, like the cars on the Arlberg Express, is blue. And such philosophers would say, presumably, that one finds *a* to have this attribute by looking at the piece of coal. But now we

* *The Critique of Pure Reason*, B 55; Norman Kemp Smith ed., p. 80.

⁵ Compare the criticism of Kant in H. A. Prichard, *Kant's Theory of Knowledge* (Oxford, 1909), ch. iv, and G. E. Moore, *Some Problems of Philosophy*, p. 170.

" A. J. Ayer, *Philosophical Essays*, p. 93.

may ask the puzzling philosophical question: "Does *a* have any *other* attributes which are also attributes of some physical things, but which one cannot learn about in this way—which one cannot learn about by looking at the piece of coal and finding out how *it* appears?"

Some of the philosophers who have faced such questions have then gone on to ask: Do appearances, like the things that present them, have surfaces, as well as parts which are behind or beneath these surfaces, and rear surfaces which face away?⁷ G. E. Moore once suggested—though with some hesitation—that appearances, or "sense-data," may possibly *appear* to have certain attributes which they do not have in fact:

that the sense-datum which corresponds to a penny, which I am seeing obliquely, is not really perceived to *be* different in shape from that which corresponded to the penny, when I was straight in front of it, but is only perceived to *seem* different—that all that is perceived is that the one *seems* elliptical and the other circular.⁸

It is important to realize that we cannot avoid such puzzling questions merely by redefining the word "appearance." We could define "appearance" in such a way that we could say of any appearance, as Professor Price has said, that its goods "are entirely in the shop-window."⁹ We could define "the appearance of a piece of coal" as being something which has just those attributes which the coal appears to have.¹⁰ And then, of

⁷ See H. H. Price, *Perception*, pp. 105-109, 131; Konrad Marc-Wogau, *Die Theorie der Sinnesdaten* (Uppsala, 1942), chs. iv, v, and vi; C. D. Broad, "Professor Marc-Wogau's *Theorie der Sinnesdaten* (II), *Mind*, LVI (1947), especially 108-109; and C. A. Baylis, "The Given and Perceptual Knowledge," in Marvin Farber, ed., *Philosophic Thought in France and the United States* (Buffalo, 1950).

⁸ G. E. Moore, *Philosophical Studies* (London, 1922), p. 245. ' Price, *Perception*, p. 145.

¹⁰ Compare the definition in A. J. Ayer, *Foundations of Empirical Knowledge*, p. 58.

course, we could be sure that the appearance of the coal doesn't have a rear surface or any parts which face away. But now we may ask of *a*—the something which is blue when the coal looks blue—whether *a* is an appearance, as just defined, of the piece of coal. And this question can be answered only by deciding whether *a* has a rear surface or any parts which "face away." But if what I have said is true, we do not meet with such questions. For "x appears so-and-so" does not imply that there is anything which is so-and-so.¹¹

3. We have contrasted the "appearing" terminology of

- (1) x appears ... to S

with the "appearance" terminology of

- (2) x presents a ... appearance to S.

And we have noted that (2) is convertible in the following way:

- (3) S senses a ... appearance of x.

Comparing these three locutions, we now see that there is another possibility, one which is related to (3) in the way in which (1) is related to (2):

- (4) S senses . . . with respect to x.

The term "senses" we here introduce may be taken as synonymous with the awkward expression "is appeared to" used in

" George Paul has noted still other problems which arise when we assume that there are appearances ("sense-data") having some of the characteristics of physical things: "Is There a Problem about Sense-Data?" *Proceedings of the Aristotelian Society*, suppl. vol. XV, reprinted in Antony Flew, ed., *Logic and Language*, 1st ser. Compare A. E. Murphy, *The Uses of Reason* (New York, 1943), pp. 32-45. In the following chapter, I shall consider one possible reason for saying that there are "appearances" having some of the characteristics of some physical things.

Part II; or, better, (4) may be taken as synonymous with "S is appeared to ... by x."

We may obtain variants of these forms by using a different terminology. For example, the verb and preposition in (2) may be replaced, respectively, by "take on" and "for." In place of "senses" in (3), we may substitute a different verb, say "experiences," "intuits," "is aware of," or even "has"; and in place of "appearance," we may substitute a different noun, say, "sensum" or "sense-datum." Some philosophers, using locution (3) have replaced the preposition "of" by the phrase "which belongs to." But, unless we question --the mode of designating the perceiver and the object, we are not likely to want to describe the experiences in any other type of locution.

It is true that the expression "perceive as" is sometimes used in such contexts. Instead of saying (1) that *x* appears red to S or (2) that *x* presents a red appearance to S, we could say that *x* is perceived as red by S. And instead of saying (3) that S senses a red appearance of *x* or (4) that S senses red with respect to *x*, we could say that S perceives *x* as red.¹² We could also use "see," "hear," "smell," "feel," and "taste" in this way. We could say that one sees the stick as bent, hears the music as Arabian, tastes the wine as Burgundy, and so on. But there are a number of reasons for avoiding this way of speaking. For

¹² In *Berkeley* (London, 1953), G. J. Warnock suggests that, instead of saying "something appears ... to me," we say, "It seems to me as if I were perceiving (seeing, hearing, etc.) something which is . . ." (pp. 169 ff.). I avoid this type of locution, however, because I attempt to define the two most important uses of perception words in terms of "appear." Although Warnock's discussion is in general an excellent one, he does not, I believe, recognize the possibility of using appear words "noncom-paratively." I would make similar comments with regard to O. K. Bouwsma, "Moore's Theory of Sense-Data," in P. A. Schilpp, ed., *The Philosophy of G. E. Moore*, and Richard Wollheim, "The Difference between Sensing and Observing," *Proceedings of the Aristotelian Society*, suppl. vol. XXVIII (1954).

one thing, "S perceives x as red" is often taken to imply "S takes x to *be* red." But our locution must not have this implication; we want to be able to say that x appears red to S without implying that S takes x to be red. And, for another thing, the "perceives as" terminology, unlike two of the terminologies listed above, happens to be inadequate for describing certain "nonperceptual" experiences. The most satisfactory terminology will be one which enables us to describe, not only appearing, but also the experiences involved in dreaming, remembering, and imagining, in being hallucinated, and in having such disturbances as "spots before the eyes" and "ringing noises in the ears."

Of a man who has "spots before his eyes," for example, we could say, following (3), that he senses "a spotty appearance." But we need not add, as we do in (3), that the appearance is 0/ anything; indeed, we could add in this instance that the appearance is *not* an appearance of anything. Or we can say, following (4), that the man senses (is appeared to) "spottily," or "in a spotty manner." But we need not add, as we do in (4), that he senses (is appeared to) "with respect to" any object. If, however, we try to describe this experience in the terminology of *appearing*, or of *appearances*, we find new questions in our way. To fit the spots into the appearing terminology of (1), we must refer to some object *x* which happens to be appearing "in a spotty manner." And to fit them into the appearance terminology of (2), we must refer to some object *x* which "presents a spotty appearance." But what could this object *x* be? If a man has "spots before his eyes," it may well be that none of the things he is looking at, or none of the things that are stimulating his eyes, *appear* spotty or *present* spotty appearances. And, similarly, if a man has "a ringing in his ears," it may be that none of the things he is listening to, or none of the things that are stimulating his ears, *sound* in

this ringing way to him or *present* him with ringing sounds.

Our talk about *pains* and other such feelings is, of course, easily adapted to the terminology of sensing. Instead of saying "I have a pain" or "I experience a pain," we may say, if we choose, "I sense painfully." By talking in this rather odd way, we are able to avoid one group of questions about "other minds" which some recent philosophers have discussed at considerable length. "Can another person experience *my* pains? Is it logically possible for the pain that one man experiences to be *identical* with the pain that another man experiences?" We cannot formulate such questions in the sensing terminology. We no longer have the noun "pain"; hence we cannot use "pain" as subject of the phrase "is identical with"; and therefore we cannot ask whether another person can experience *my* pains.

In a similar way, we avoid the puzzling questions about the relations between appearances—"visual sense-data"—and the surfaces of physical things. No longer having such expressions as "elliptical sense-datum," we cannot ask whether "the elliptical sense-datum is identical with the round penny which presents it."

If we were to restrict ourselves to a single one of the four locutions above, we would find (4)—"S senses red with respect to *x*"—to be the most convenient. It is capable of describing any experience we can describe by means of the other three. Unlike (2) and (3), it does not lead to the difficulties we have associated with the terminology of *appearances*.¹³ Un-

¹³ Philosophers have often objected to the appearance, or sense-datum, terminology on the ground that it enables us to formulate such questions as "Do there exist appearances which no perceiver senses?" and "Do objects take on appearances for things other than perceiving organisms?" But the other terminologies, I think, allow similar questions. We may ask, using the terminology of appearing, "Are things other than perceiving organisms ever appeared to?" and we may ask, using the terminology of sensing, "Do

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like (1), it is adequate for describing those experiences of "ringing noises" and the like which are not *appearances* of anything. And, in application to such experiences, "sensing" may be less misleading than our earlier "is appeared to."

For the purposes of our ordinary talk about the ways in which things appear, the terminology of sensing has no special advantage. But if what we want to do is to describe perceiving in that way which is least puzzling philosophically, then this strange and artificial terminology would seem to be the least misleading. The alternative terminologies entangle us in philosophical questions we can avoid if we talk in terms of sensing. For us, the important thing is merely that we recognize this fact and not that we actually adopt the terminology of sensing.

What I have said about the comparative and noncomparative uses of the locution "*x* appears so-and-so to *S*" also holds, of course, of the locution "*S* senses so-and-so with respect to *x*." And what I have said about the role of the adjectives, or the adverbs, which are used with appear words—the adjective or adverb which would replace "so-and-so" in "*x* appears so-and-so to *S*"—also holds of the adjectives or adverbs which are used with "sense."

things other than perceiving organisms ever sense?" (These questions may arise even though we do not take "There is a . . ." to be a consequence of "*x* appears . . .," or of "*S* senses. . .") I believe that certain speculations of Whitehead and Samuel Alexander are affirmative answers to the latter two questions, in the terminologies of appearing and of sensing. I have in mind Whitehead's doctrine of "prehensions," according to which "all actual things are subjects, each prehending the universe from which it arises," and Alexander's view that we may "ascribe 'mind' to all things alike, in various degrees." See A. N. Whitehead, *Process and Reality* (Cambridge, 1930), p. 89, and Samuel Alexander, "The Basis of Realism," *Proceedings of the British Academy*, VI (1914), 32. Whitehead finds such doctrines suggested by Leibniz's theory of monads, as well as by Locke's *Essay*, bk. IV, ch. iii, sec. 6.

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Given the sensing terminology, then, we may define *appear*: "*x* appears ... to *S*" means that *S* senses . . . with respect to *x*.

But I have not yet said what it is to sense in a certain way *with respect to* an object, what it is for an appearance to be an appearance *of* an object. In the chapter following the next one, I shall attempt to define this use of "with respect to"—this use of "of"—in purely causal terms. Before attempting this definition, however, we must first consider those powers or dispositions that Locke described as "secondary qualities."

Chapter Nine

Secondary Qualities

1. The *secondary qualities* of physical objects, Locke said, are "such qualities, which in truth are nothing in the objects themselves, but powers to produce various sensations in us by their primary qualities, i.e., by the bulk, figure, texture and motion of their insensible parts, as colors, sounds, tastes, etc."

¹ Where Locke speaks of *primary qualities* of an object, it may now be better to speak of the physical or microscopic structure of the object. But otherwise, I think, his definition remains useful.

When we investigate the secondary qualities of objects, we learn to complete statements of this sort:

If anything has ... physical structure, then: if under . . . conditions it sensibly stimulates a perceiver who is . . . , the perceiver will sense in a ... manner.

¹ John Locke, *Essay concerning Human Understanding*, bk. II, ch. viii, sec. 10. The terra "secondary quality" could be construed sufficiently broadly to be coextensive with what, in Chapter Six, I referred to as "sensible qualities"; in the context of the present chapter I think Locke's term is more appropriate.

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Such a statement describes the conditions under which a physical object, serving as a source of stimulation, may cause a perceiver to sense. If the principal antecedent were to describe the microscopic structure of the things I am now looking at and if the subordinate antecedent were to describe the lighting conditions in this room and my present physiological and psychological state, then the final consequent would describe the "appearances" I am now sensing. The statement-form has four blanks, to be filled by terms describing four different sets of conditions or events. To the extent, therefore, to which we can keep any two of these sets of conditions constant and vary a third, we may be able to produce variations in the fourth.

The language we use to describe these variations is sometimes ambiguous or misleading; this fact is closely connected with the philosophical puzzles historically associated with the concept of *secondary quality*.

2. The word "blue" is sometimes used to designate a secondary quality of physical things. Occasionally it is used to designate the physical foundation of such a property or quality—the microscopic structure which a thing must have if it is to have the secondary quality *blue*. And frequently the word "blue" is used to designate a kind or species of appearing; a thing which may, or may not, have the secondary quality *blue* is then said to appear or to look blue. Many other adjectives are used, similarly, to designate either a secondary quality, a microscopic structure, or a way of appearing, or of sensing.² It is, perhaps, a typically philosophical error to confuse these uses. Democritus said, of those "images" or "appearances" usually

² "Blue is also used, occasionally, to designate light of a certain wave length—light which is reflected by things having the secondary quality *blue*. In *Sensation and Perception in the History of Experimental Psychology* (New York, 1952), E. G. Boring mentions still further uses of such terms (p. 131).

designated by such words as "sweet," "bitter," "warm," "cold," "red," and "black," (1) that they exist only when sensed by some perceiver. We might express this proposition more generally by saying that nothing appears—in any way at all—unless it appears in some way to some living thing. From this proposition Democritus evidently inferred (2) that no *unperceived* physical thing can be said to *be* sweet or bitter, warm or cold, red or black. Other philosophers, believing that (2) is false, have deduced that (1) is false. Having decided that nature "holds within it the greenness of the trees, the song of the birds, the warmth of the sun, the hardness of the chairs, and the feel of the velvet," they have deduced, apparently, that the appearances of these things continue to exist when no one is sensing them.³ (This reasoning, if it were sound, would constitute an objection to using the sensing terminology which we recommended in the previous chapter. For the "grammar" of this terminology does not allow us to express the proposition that there are appearances which exist when no one is sensing them.)

Aristotle had seen that there is an ambiguity in saying that (1), above, implies (2)—and hence, also, in saying that the denial of (2) implies the denial of (1).

The earlier students of nature were mistaken in their view that without sight there was no white or black, without taste no savour. This statement of theirs is partly true, partly false. "Sense" and

³ The quotation is from A. N. Whitehead, *Concept of Nature* (Cambridge, 1920), p. 31. Contrast Locke: "He that will consider that the same fire that at one distance produces in us the sensation of warmth, does at a nearer approach produce in us the far different sensation of pain, ought to bethink himself what reason he has to say, that this idea of warmth which was produced in him by the fire, is actually in the fire, and his idea of pain which the same fire produced in him the same way is not in the fire" (Essay, bk. II, ch. viii, sec. 16). There is a good discussion of the "pain argument" in D. J. B. Hawkins, *Criticism of Experience*, ch. ii.

"the sensible object" are ambiguous terms; i.e., they may denote either potentialities or actualities. The statement is true of the former, false of the latter. This ambiguity they wholly failed to notice.⁴

But Aristotle's own statement is more paradoxical than it needs to be. He points out, in effect, that a physical thing, at times when it is not being perceived, may yet have a "power" or "capacity" to stimulate the sensing of sound, color, flavor, or the like; for the thing may be such that, if certain conditions were to be realized, it *would* cause sensing to occur in these manners. And from this fact he concludes that such things, when they are not perceived, have *potential*, but not actual, sounds, colors, or flavors. But if we use the terms "sweet," "bitter," "warm," "cold," "red," and "black," as people often do use them, to designate secondary qualities, then we may say, less paradoxically, that unperceived things are sweet or bitter, warm or cold, red or black, provided only that they have the proper secondary qualities.⁵ Spring leaves which have the secondary quality green are actually green and potentially red.

Sometimes green leaves look red. And when they do, people may say that what *looks* red is *really* green. But we should note that the redundant term "really" does not add any content to the sentences in which it occurs. Neither "Things that are really green may sometimes look red," "Things that are green may sometimes really look red," nor "Things that are green may sometimes look really red" adds anything to what is said by "Things that are green may sometimes look red."⁶ The

⁴ *De Anima*, III, ii, 426a; see also *Metaphysics*, IV, v, 1010b.

⁵ Compare Thomas Reid, *Inquiry into the Human Mind*, ch. vi, sees. 4 and 5, and C. J. Ducasse, "On the Attributes of Material Things," *Journal of Philosophy*, XXXI (1934), 57-72.

⁶ The American "New Realists" held that "things are just what they seem"—that the things we perceive are "precisely what they appear to be."

word "really" in "x is really green" serves only to stress the fact that "green" is not prefixed by "looks" or "appears," a purpose also served by writing "is" in italics.

And we must beware of saying that, when something green looks green, the thing and its appearance "have the same color." For "That looks green" does not mean that there is an appearance, or a way of appearing, which has the secondary quality *green*; that is, it does not mean that there is an appearance, or a way of appearing, which has "the power to produce" a green appearance.

Locke put the foregoing by saying that the ideas caused by secondary qualities are not "resemblances."⁷

3. Locke also said that the ideas caused by primary qualities *are* resemblances—"resemblances of something really existing in the objects themselves."⁸ The *primary* qualities of things, it will be recalled, are "the bulk, figure, number, situation, and motion or rest of their solid parts."⁹ Translating the terminology of "ideas" into that of "appearing," can we find any sense in which Locke's doctrine can be said to be true? This question, I believe, is more difficult than it may at first appear to be.

Let us consider three examples which will put Locke's view in a favorable light.

A man planning to take a photograph of the Pyramids may

See E. B. Holt, R. B. Perry, *et al*, *The New Realism* (New York, 1912), p. 2. We need not accept this doctrine ("naive realism") if it is meant to imply: (i) that green things never look brown; (ii) that when green things look brown they are both green and brown; or (iii) that things may appear in certain ways without appearing to anyone in those ways.

⁷ *Essay concerning Human Understanding*, bk. II, ch. viii, sec. 24.

⁸ *Ibid.*, sec. 25.

⁹ *Ibid.*, sec. 23.

want his photograph to convey some idea of their relative sizes and positions. And he may decide, therefore, that since one of the Pyramids falls between the others with respect to both size and location his photograph should be one in which the parts depicting the Pyramids are similarly related. Hence he finds a position for viewing the Pyramids from which one might say: "I am presented with an appearance containing three components, L, S, and M, such that: (i) M falls between the other two with respect to both size and position; (ii) each is an appearance of one of the Pyramids; and (iii) the Pyramid of which M is an appearance falls between the other Pyramids with respect to both size and position."

The opening phrase of "*La donna e mobile*"—A iterated three times, C, B flat, and G—exhibits an order such that, in one dimension or direction of that order, the fourth and sixth members are separated by the greatest interval and the first three fall between the fifth and the sixth. A person who has heard this phrase might say: "I have sensed six successive appearances which are related as are the six notes sung by the tenor—and as are the notes on his music and the grooves on the record."

A victim of double vision may look at one rectangular window and "seem to see" two windows, each one appearing rectangular. Realizing his limitation, he might say: "I sense two appearances which, in relation to the window that appears, are approximately the same in shape but are double in number."

It should be noted that the quotations included in these examples cannot be put in the sensing terminology we recommended in the previous chapter. Hence Locke would not accept our recommendation.

If the first two examples indicate that sometimes the "ideas

caused by primary qualities" are resemblances,¹⁰ the third indicates that sometimes they are not. The appearances presented by the window differ from the window "in number." And if the man were to move to one side, he could obtain two appearances of the window, each of which differs from the window in shape. Conceding all of this, however, we wish to know merely whether things ever *can* be said to resemble the ways in which they appear.

The appear statements I have quoted in the three examples must be taken in their *noncomparative* sense, if Locke's view is true. The statement (1) "The window appears rectangular" must *not* be interpreted as saying merely, (2) "The window appears the way rectangular things would appear under optimum conditions." The word "rectangular"—according to Locke's view—has the same meaning in both (1) and (2); in (2) it applies to the window and in (1) it applies to the appearance of the window, or to the way in which the window appears. And similarly for the other examples; predicates which describe the primary qualities of physical things are also used to describe the ways in which those things appear.

I suggested in the previous chapter that the adjectives which follow the verb "appear" are *not* predicates qualifying an appearance or a way of appearing. According to what I said there, the adjective "rectangular" as it is used in "The window appears rectangular" is not a predicate attributing a characteristic to the way in which the window appears. The two words "appears rectangular" constitute a predicate which attributes a certain characteristic to the window. Similarly, "rectangular appearance" is to be compared, not with "rectangular window," but with "rectangular shape." The relation of *appearance* to

¹⁰ Aristotle had noted, concerning primary qualities (the "common sensibles"), that "it is in respect of these that the greatest amount of sense-illusion is possible" (*De Anima*, III, iii, 428b).

rectangular in "The appearance is rectangular" is not that of subject to attribute.

Our three examples may tempt us to reject this doctrine and to say, with Locke, that the things we perceive may sometimes resemble the ways in which they appear to us—that some of the predicates designating the primary qualities of things may also be used, without ambiguity or change of meaning, to designate the ways in which some things appear. If we do agree with Locke, no one, I feel can show that we are mistaken.¹¹ But is there any good reason for agreeing with Locke?

The doctrine of the previous chapter, which we have contrasted with that of Locke, has the merit of greater economy and simplicity. When we ask about the way in which something appears, we are asking about one of the attributes—a relational attribute—of the *thing* that appears. But, according to our doctrine, we cannot ask about the attributes of the *way* in which the thing appears. For "the way in which the thing appears" does not designate a subject of attributes.

I know of one plausible argument for Locke's view—one which is associated with the doctrine of empiricism.

4. It is sometimes said that, before we can learn about the things that appear to us, we must learn about their appearances, about the ways in which they appear to us. One might say, for example, "Before we can know anything about the shapes of physical things, we know about the shapes of their appearances; before we can know whether any physical things are rectangles, we know that some of them look rectangular, that they present appearances which are rectangles; then, gradually, we learn to tell which physical things are rectangles." If this

¹¹ Bertrand Russell defends this view in *Human Knowledge*, pt. iv, chs. iii and iv, and pt. vi, ch. vi; compare his *Introduction to Mathematical Philosophy* (London, 1919), ch. vi.

appear statement were taken in its comparative sense, it would be contradictory, for it would imply: "Before we can know anything about rectangular physical things or whether there are such things, we know that some things look the way that rectangular physical things look under certain conditions." The statement, therefore, must be taken in its noncomparative sense. And it is one which cannot be true unless some of the predicates, describing the primary qualities of things, may also be used to describe the ways in which things appear.

A somewhat similar view might be taken of our knowledge of the secondary qualities of things, but with one significant difference. It is sometimes suggested that we first learn about the "colors of appearances" and that we subsequently learn about the colors of physical things; we first learn that certain appearances are red and we later learn that certain things are red. It would be in accord with this suggestion to say that we first apply "red" to appearances and later learn how to apply it to physical things.¹² It would not be plausible, however, to go on to say that "red" retains its original meaning when we apply it to physical things. For when we say that a physical thing is red, we may mean that it has the capacity to present a red appearance. Hence anyone accepting this account of the origins of our knowledge should say that "red," unlike "rec-

¹³ The following dialogue occurs in bk. II of J. G. Fichte's *Vocation of Man*:

"*Spirit*.... Perhaps you have learned, by comparing the red or blue colours, the smooth or rough surfaces of objects *external to yourself* what you should experience within yourself as red or blue, sweet or rough?"

"I. This is impossible; for my perception of objects proceeds from my perception of my own internal condition, and is determined by it—not the reverse. I first distinguish objects by distinguishing my own states of being. I can learn that this particular sensation is indicated by the arbitrary sign, red; and those by the signs, blue, smooth, rough ..." (The Library of Liberal Arts ed. [New York, 1956], p. 39).

tangular," undergoes a change of meaning—or takes on a new meaning as one learns about the powers, or dispositions, of things.

It is no part of philosophy, as I conceive it, to speculate about the growth and origins of language or of knowledge. But if we are to retain our "adjectival" conception of appearing, we must be able to show, if only schematically, that our language habits and our knowledge need not have developed in the manner just described.

If there is any evidence for supposing that, genetically, our knowledge "begins with appearances," this evidence, I believe, may be interpreted in accordance with what I have said about appearing. Suppose we do find something that we are tempted to describe in this way: "At first, a red appearance is sufficient to elicit the predicate 'red' and a rectangular appearance is sufficient to elicit 'rectangular.' Then, later in the development of the individual, red and rectangular things elicit these predicates." What we would have found, I suggest, may be put as follows.

"We first use the thing-predicate 'red' in the way in which we later use such expressions as 'appears red' and 'looks red.' At first we say that a thing *is* red provided only that it looks red. Later, when we find out about lights and reflections and glasses, we become more selective and withhold 'red' from certain things which appear red and we apply 'red' to certain things which do not appear red. As the-meaning of 'red' becomes more and more determinate, the expressions 'looks red' and 'appears red' come to take over the former, less discriminate uses of 'red.'

"At first, we say that a thing 'is rectangular' provided only that it meets the conditions we later describe as 'looking rectangular.' Then, as we become more discriminating, we revise

our criteria. Some of the things that look rectangular are no longer called 'rectangular,' and some of the things that we call 'rectangular' need no longer look rectangular."

According to my suggestion, then, there is no reason to suppose that we first apply our predicates to appearances and later apply them to the things which present appearances. From the first, we apply our predicates to the things. But it may be that we first apply certain predicates "so-and-so" in the way in which we later apply the predicate "appears so-and-so."¹³ If my suggestion is true, then we need not accept the view that there is a time when we attribute our predicates to the ways in which things appear. And if we need not accept this view, we need not accept Locke's view that the primary qualities of things are "resemblances."

I suggested in Chapter Four that it is a part of the doctrine of "empiricism" to hold that we cannot apply any predicate or adjective "so-and-so" until we know how to apply the expression "appears so-and-so." We cannot know how to apply "red" until we know how to apply "appears red" or "looks red." If this doctrine is taken to imply that we learn how to describe appearances or ways of sensing *before* we learn how to describe "external" physical things, then, according to my present suggestion, the doctrine is false. For when we first describe ways of appearing, we *are* describing the physical things that appear. All that a thing must do to merit the predicate "red," in this early use, is to *look* red. But the empirical doctrine *could* be taken to mean, simply, that we learn the

¹³ A somewhat similar view is proposed by C. H. Whiteley, "Meaning and Ostensive Definition," *Mind*, LXV (1956), 332-335. What I have said above and what I have said about "empiricism" may be said to support K. R. Popper's criticisms of "inductivism." See his *Logik der Forschung* (Vienna, 1935) and "Three Views Concerning Human Knowledge" in *Contemporary British Philosophy*, 3d ser., H. D. Lewis ed. (London, 1956).

secondary-quality use of "red" *after* we have learned the use of a term which, in the early stage of our development, we used synonymously with our later use of "appears red." And if the empirical doctrine is taken in this second way, then, according to my suggestion, it is true.

There is another way in which "red" and other secondary-quality words may undergo a change of meaning as people learn more about the things to which such words apply. I suggested above that to be able to say of anything that it has a certain secondary quality is to be able to complete a statement of this sort: "If under . . . conditions the thing stimulates a perceiver who is . . . , then the perceiver will sense in a ... manner." The best that most of us can do with the blanks in such a statement is to supply such words as "normal," "usual," or "ordinary." A thing is said to have the secondary quality *red* if in ordinary daylight it looks red to ordinary people—to people like ourselves. But a physicist or a psychologist, who knows more than we do about the conditions under which things look red, can replace "ordinary" and "usual" by more precise descriptions. And for such a person the secondary-quality word may come to have a more precise meaning than it has for the rest of us.

5. The words we use to describe our feelings—our emotions, moods, and "feeling-tones"—are often used to describe the properties of things.

Shall we say an "agreeable degree of heat," or an "agreeable feeling" occasioned by the degree of heat? Either will do; and language would lose most of its esthetic and rhetorical value were we forbidden to project words primarily connoting our affections upon the objects by which the affections are aroused. The man is really hateful; the action really mean; the situation really tragic—all in

themselves and quite apart from our opinion. We even go so far as to talk of a weary road, a giddy height, a jocund morning or a sullen sky.¹⁴

We may ask whether the road is "objectively" weary, or the degree of heat agreeable, or the sunset beautiful. And our answers should depend, in part, upon whether the adjectives "weary," "agreeable," and "beautiful" are to be taken as designating feelings or as designating properties of things.

Among the properties of a painting, for example, may be that of being able to cause certain perceivers to experience a melancholy feeling. If the painting is a good one, perhaps the experience is better described by saying that the painting has a melancholy flavor or tone. Thus, if we knew enough about "psychophysics," we could confirm statements of this sort:

If under . . . conditions the painting stimulates a perceiver who is . . . the painting will have a melancholy tone for him.

Once we know the aesthetic properties of a thing, it would be an easy matter (if we were interested) to discover the microscopic "foundations" of these properties. And the feelings in question may be described—insofar as they are describable at all—by means of the sensing terminology discussed in the previous chapter.

There are, of course, important respects in which our feelings—or the feeling-tones of what we perceive—differ from what we have been calling "appearances." It may be that our feelings are more likely to vary with slight changes in our attitudes and our beliefs than are the appearances we sense. Hence the statements describing aesthetic properties may have to refer to many physiological and psychological conditions which

¹⁴ William James, *Essays in Radical Empiricism* (New York, 1912), pp. 143-144.

are irrelevant to the sensing of appearances.¹⁵ And therefore the presence of aesthetic properties in an object or situation may be less easy to ascertain than is the presence of "secondary qualities." But these complications, I believe, do not point to any important difference between the two types of property.

If we choose, we may also speak of the *ethical* or *moral* properties of things and events. We could define "good," or "valuable," in such a way that statements of the form "*x* is good," or "*x* is valuable," could be translated into statements of the following sort, where the blanks are replaced by terms which are "ethically neutral":

If under . . . conditions a perceiver who is . . . is stimulated in virtue of *x*, he will appraise *x* favorably.

I use the expression "appraise *x* favorably," instead of "morally approve of *x*" or "take *x* to be good," in order not to prejudge the question, discussed in Chapter Seven, whether such "appraisal" is true or false. And I use the expression "stimulated in virtue of *x*," instead of "*x* stimulates," in order to provide for the possibility that *x* is an event or state of affairs and not a physical thing.

If we say that charity is good or valuable, using "good" or "valuable" in the present sense, we would mean that whenever a certain type of perceiver is physically confronted with anyone's charitable act—say, under "normal" observation conditions—he will appraise the act favorably. A value statement of this sort does not differ in any philosophically interesting way from statements about the "secondary qualities" of things. If the philosophical terms "objective," "scientific," "factual," "descrip-

¹⁵ Compare Alexius Meinong, *Über emotionale Praesentation* (Vienna, 1917); C. J. Ducasse, *Art, the Critics, and You* (New York, 1944), ch. iv; C. I. Lewis, *An Analysis of Knowledge and Valuation*, chs. xii and xiii; and Soren Hallden, *Emotive Propositions* (Stockholm, 1954).

tive," and their synonyms are applicable to such statements as "This piece of tile is blue" and "It is more dangerous to go by plane than by ship," they are also applicable to such statements as "That action is a good thing" and "It is better to relieve the misery of many than to increase the pleasure of a few"—*provided* that the ethical terms in the latter statements are used in the property sense described above.

Have we found, then, a solution to the puzzles of Chapter Seven? There we raised a question about ethical and epistemic "appraisal" which we did not answer. We asked: Is such appraisal like believing, taking, and judging, in that it is either true or false? Or is it, rather, like being amused, in that it is neither true nor false? We asked similar questions about the statements—for example, "That act "is right"—in which such appraisal may be expressed. Are these statements true or false? And are they statements for which we can have evidence?

We may assign a property meaning, in the sense described above, to "That act is right" and to the other statements we discussed in Chapter Seven. But when these statements are taken in their property sense, they no longer have the meaning they had in Chapter Seven. They become statements expressing our beliefs about certain causal properties of things; they are no longer statements expressing our moral appraisal—our moral beliefs or attitudes about these things.¹⁶

From the fact that value statements, in their property interpretation, are statements which are either true or false, it does *not* follow, then, that our appraisals are either true or false. A man who does *not* favorably appraise a certain object or event

¹⁶ There are many moral and aesthetic terms which, in their ordinary use, are ambiguous with respect to these two uses. There is a good discussion of some of these terms ("A-words") in P. H. Nowell-Smith, *Ethics* (London, 1954), ch. vi. The "naturalistic fallacy" in ethics may take the form of an equivocation with respect to these two uses; see R. M. Hare, *The Language of Morals* (Oxford, 1952), ch. v.

may yet *believe* that the object or event meets the conditions of the property sense of "good." For he may concede that people of the sort required by the definition—normal people or (he might say) "average" people—do appraise it favorably. And a man who *does* favorably appraise a certain object or event may yet know that it does not have the property good—that people of the required sort do not appraise it favorably. If we interpret "good" in the above sense and if we continue to interpret "favorably appraise" as synonymous with the word "approve," as that word was intended in Chapter Seven, then we may say that to believe something to be good is *not* the same as to appraise it favorably. We cannot say, therefore, that what holds of statements which express our beliefs about *value* must also hold of statements which express our moral and epistemic *appraisals*.¹⁷

¹⁷ "Valuation is always a matter of empirical knowledge. But what is right and what is just, can never be determined by empirical facts alone" (C. I. Lewis, *An Analysis of Knowledge and Valuation*, p. 554).

Chapter Ten

The Perception of Things

1. The verbs "perceive," "see," "hear," and "observe" are ordinarily used with one or the other of two types of grammatical object. We may say, "I see that a man is coming down the lane." Or we may say, "I see a man." In the first case, "see" takes a propositional clause as its grammatical object; in the second, it takes a noun. The objects of "hear," "perceive," and "observe" may, similarly, be either propositional or nonpropositional. "Taste" and "smell" may occasionally take propositional objects, but for the most part they are used nonpropositionally, with nouns or descriptive phrases.

In Chapter One, Section 1, I proposed a definition of the most important propositional use of "perceive." In the present chapter, I shall define nonpropositional uses of "perceive," "see," "hear," and a number of other perception words. Given these definitions one could, I believe, define all other important uses of perception words. I shall also discuss certain philosophical questions concerning the relations between the propositional and nonpropositional senses of these words.

2. We will find, if I am not mistaken, that "S perceives x," in one familiar nonpropositional use, means the same as "*x appears* in some way to S." We have discussed at length the grammatical predicate of the locution "*x appears so-and-so*"; let us now consider its subject. In Chapter Eight, I suggested this definition of *appear*:

"*x appears ... to S*" means that S senses . . . with respect to x.

The term "sense," I there said, may be used for describing many types of experience other than that of "being appeared to"; hence there is a theoretical advantage in defining "appear" in terms of "sense." But I have not yet said what it is to sense *with respect to* an object. I shall now try to reformulate our definition of "appear" in such a way that the phrase "with respect to" is replaced by *causal* terms.

Our problem is best seen, I think, if we begin with an oversimplified definition of "appear" and then note the respects in which our definition needs to be modified.

Let us consider, first, the following definition:

"*x appears ... to S*" means that *x* causes S to sense. . . .

This definition is quite obviously too broad. If we take the expression "*x causes S to sense*" to mean merely that *x* is a *causal condition* of S's sensing, then according to the above definition we must say, of all those physical and psychological conditions necessary to being alive and conscious, that *they* appear to us whenever we sense in any way. For one would not sense in any way at all unless, for example, one had sense organs and a nervous system. But we do not wish to say that, whenever anyone senses in a certain way, his sense organs and nervous system *appear* to him in that particular way. Shall we say, then, that the things that *appear* are always

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external stimuli, things that act upon the receptors of the perceiving subject? We might modify our definition in this way:

"x appears ... to S" means that x stimulates the receptors of S and that, in consequence, S senses. . . .

But our definition remains too broad. Light waves and sound waves may stimulate the receptors of S and cause him to sense in certain ways. But we do not wish to say that the light waves or sound waves thereby *appear* to S in those ways or in any other ways.

To exclude such "improper" objects, let us introduce the concept of a *proper stimulus* and then specify that what appears to S must be something which is a proper stimulus of S.

We may say that x is a proper *visual* stimulus for S provided (i) that light transmitted from x stimulates a visual receptor of S and (ii) that this light, after being transmitted from x and before reaching the visual receptors of S, is not reflected. When we look at the moon at night, our eyes are stimulated by light from the sun; the proper stimulus, however, is the moon and neither the light nor the sun.

We may say that x is a proper *auditory* stimulus for S provided that soundwaves transmitted from x stimulate an auditory receptor of S. The proper auditory stimulus is thus neither the sound waves nor the medium through which they are transmitted, but the vibrating object that transmits them. The proper *olfactory* stimuli are odoriferous particles which stimulate the olfactory receptors; those of *taste* are the substances that enter and stimulate the taste buds; and those of *touch* are whatever, by pushing or pulling the skin, stimulates the touch spots. For other types of kinesthetic sensation it is enough, I think, to say that any kinesthetic stimulus is a "proper stimulus."

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Let us say generally, then, that a *proper stimulus* is a stimulus of any one of the types we have just described.¹ We might now modify our definition of "appear" in this way:

"x appears ... to S" means that, as a consequence of x being a proper stimulus of S, S senses. . . .

With this definition, we no longer have to say that light waves and sound waves are included among the things that appear. And if a man's sense organs are stimulated artificially or improperly—if, say, an electrode or the blow of another man's fist causes him to "see stars"—the stimulus need not be described as something that appears. But our definition is still too broad.

We must find a way of ruling out those *images* which may be called up as the effect of some proper stimulus x but which we do not wish to call appearances of x. A traveler, on looking out of a railroad car, sees something reminding him of an earlier trip and, in consequence, he visualizes a certain strip of land along the Pacific ocean. In so doing, he may "sense blue" despite the fact that none of the things he sees *appears* blue to him. The things he sees are proper stimuli, and it is because of them that he "senses blue." Hence, according to our definition above, we may say, falsely, that the things that stimulate his eyes as he looks out the window appear blue. We must find a way, therefore, of distinguishing the "impression" from the mere "idea."

For the empirical theories of Berkeley, Hume, and Kant, it was essential to distinguish between impression and idea without making any reference to the external sources of stimulation. Tending to accept both forms of the doctrine that our knowl-

¹ In psychological literature, the term "stimulus object" is sometimes used to designate a proper stimulus.

edge "begins with appearances" (see Chapter Six, Sections 1 and 2, and Chapter Eight, Section 4), these philosophers sought to find some "internal" mark by means of which the perceiver could distinguish between the appearances of things and the imagery which sometimes accompanies these appearances. Berkeley said, it may be recalled, that

the ideas of sense are more strong, lively, and distinct than those of the imagination; they have likewise a steadiness, order, and coherence, and are not excited at random, as those which are the effects of human wills often are, but in a regular train or series, the admirable connexion whereof sufficiently testifies the wisdom and benevolence of its Author.²

The last of these marks—the *regularity* which distinguishes the impressions of sense from the ideas of the imagination—will enable us, I think, to complete our definition of "appearing." But, unlike Berkeley, Hume, and Kant, I believe that this regularity can be described only by referring to certain properties of the stimulus.³

In our example of the traveler who visualizes the sights of an earlier trip as he looks out the window, we have an idea and

² George Berkeley, *Principles of Human Knowledge*, sec. 46.

³ I shall criticize some of the details of Berkeley's doctrine in the Appendix. Hume's discussion of the question "What causes induce us to believe in the existence of body?" (see *Treatise of Human Nature*, bk. I, pt. iv, sec. 2) and Kant's "transcendental doctrine of judgment" may be looked upon, I think, as attempts to refine upon Berkeley's criteria. The following quotation expresses the essence of Kant's doctrine: "If we enquire what new character *relation to an object* confers upon our representations, what dignity they thereby acquire, we find that it results only in subjecting the representations to a rule, and so in necessitating us to connect them in some one specific manner. . . ." (*The Critique of Pure Reason*, B 242; Norman Kemp Smith ed.). Hume's *Theory of the External World* (Oxford, 1940), by H. H. Price, and *Kant's Theory of Knowledge* (Oxford, 1909), by H. A. Prichard, are excellent discussions of these attempts.

an impression—an image and an appearance—each of which is dependent upon proper stimuli. It was in part because of the secondary qualities of the things our traveler was looking at that they *appeared* in the way in which they did appear—and had they not appeared in that particular way, he would not have visualized the sights of his earlier trip. Yet the impression is connected with the stimulus in a way in which the image is not.

If our traveler is a commuter who occupies the same seat each day and if he is in the habit of looking out, then the things along the track will appear in approximately the same way each day and in the same order. But the ways in which he imagines will vary with each trip. Our impressions, unlike our mere ideas or images, will vary systematically with variations in the proper stimuli.

Merely by making systematic changes in a proper stimulus and, so far as possible, keeping all other conditions constant, a "psychophysical" experimenter can produce systematic changes in the way in which his subject senses. By turning a dial, he can make an auditory stimulus sound high, then low, then somewhere in between, then low again, and then high again. Merely by changing the illumination, he can make similar systematic changes in the way in which a visual stimulus will appear. But he cannot readily produce systematic variations in the imagery of his subjects; to make his subject call up one image, then a second, then the first again, and so on, it is usually necessary for him to do something more than turn a dial.

Let us consider, then, the following modification of our definition of "appear":

"x appears ... to S" means: (i) as a consequence of x being a proper stimulus of S, S senses . . . ; and (ii) in

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sensing . . . , S senses in a way which may be made to vary concomitantly with variations in x.

I believe we need only one slight modification.

A skilled experimenter may, on occasion, achieve considerable control over his subject's imagery. By saying the right things or giving the right instructions, a hypnotist may be able to produce a stream of ideas or images which, for a while at least, will vary concomitantly with the changes in the sound of his voice. Our definition, as it now stands, would require us to say that the subject's stream of imagery is a way in which the *experimenter* appears.

If the subject's *imagery* may, on occasion, be made a function of changes in a proper stimulus, these changes must have a degree of complexity which cannot be made a function merely of the *degree* of stimulation. The experimenter must speak the language of his subject; or he must make considerable use of information about the subject's background and his present physiological and psychological state. But the way in which the proper stimulus *appears* will vary with changes of a much simpler sort.

To change the way in which the stimulus object appears, it is enough to change the degree—or intensity—of the stimulation. To make the stimulus object look different, we have only to increase the amount of light it reflects; to make it sound different, we have only to increase the volume of sound; and analogously for the other types of stimulus. The way in which an object appears may be made a function solely of the amount of energy in the stimulation it causes; in short, it may be made a function of the stimulus energy it produces. Let us consider, then, the possibility of defining "appear" in this general way:

"x *appears* ... to S" means: (i) as a consequence of x being a proper stimulus of S, S senses . . . ; and (ii) in

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sensing . . . , S senses in a way that is functionally dependent upon the stimulus energy produced in S by x.

If this type of definition is satisfactory, as I believe it is, then we may say that "appear" is definable in terms of "sensing" and certain causal concepts of physics and physiology.⁴

3. We may now define the simplest of the non-propositional senses of "perceive":

"S *perceives x*" means: x appears in some way to S.

The locution "S perceives x" in this, the most simple of its senses, may thus be thought of as one way of expressing the converse of "x appears in some way to S."

Corresponding senses of "see," "hear," "smell," "taste," and "touch" may be defined by making use of the *definiens* of our definition of "appear," above, adding a reference to the type of proper stimulus involved. For example, we may define the simplest of the nonpropositional senses of "see" in this way:

"S *sees x*" means that, as a consequence of x being a proper *visual* stimulus of S, S senses in a way that is functionally dependent upon the stimulus energy produced in S by x.

We may now say that an object is *in view* provided only that the subject is in a position where he can readily see the object. Similar definitions may be provided for "hear," "smell," "taste," and "touch." And we may say of a man that he "is aware of" or "feels" a certain part of his body, in the nonpropositional senses of "is aware of" and "feels," provided only that he senses in some way as a result of kinesthetic stimulation in that part of his body.

4 The definition presupposes, of course, that we have an adequate analysis of *functional dependence* and *causation*; my own views on the latter concepts may be found in "Law Statements and Counterfactual Inference," *Analysis*, XV (1955), 97-105.

Defining nonpropositional uses of perception words in this way, we need not accept the thesis, proposed by some writers on science, that what people perceive are light waves, sound waves, retinal images, parts of the brain, or ways of appearing.

I have said that such definitions are concerned with the simplest of the nonpropositional senses of the perception words defined. Perhaps we would hesitate to apply any of these words, even nonpropositionally, unless we believed that still another condition was fulfilled. Perhaps we would not want to say that a man *sees* an object *x* unless, in addition to sensing in the required way, the man also *took* the object *x* to *be* something. As we shall note in more detail below, there is no paradox involved in saying that a man *sees* a dog without taking what he sees to *be* a dog. It may be, however, that we would hesitate to say that he sees a dog if he didn't take it to be anything at all. To make our definitions adequate to this felt requirement, we have only to add the qualification:

and *S* takes *x* to have some characteristic.

Using perception words in the way they are defined here, we must say that there are people who perceive things, who see, hear, feel, or touch them, without *knowing* that they are perceiving anything, without knowing that they are seeing, hearing, feeling, or touching anything. For there are people who perceive things without knowing anything about the physical processes in terms of which we have defined the nonpropositional senses of perception words. Thus we could say, with Leibniz, that *apperception* is not given to all who have *perception*.⁵ People who do not know that they are perceiving any-

⁵ "Thus it is well to make distinction between *perception*, which is the inner state of the Monad representing outer things, and *apperception*, which is *consciousness* or the reflective knowledge of this inner state, and which is not given to all souls nor to the same soul at all times" (G. W. Leibniz,

thing may yet *say* that they do. They may say that they see, hear, feel, or touch things, but, in so saying, they use perception words in ways other than those defined here. If we wished our definitions to be adequate to their uses, we could still define such locutions as "*S* perceives *x*" in terms of "*x* appears in some way to *S*"; but we would replace the definition of "*x* appears in some way to *S*," which we finally settled upon, with one of the simpler definitions we had rejected.⁶

4. When a perception verb is used, nonpropositionally, with a grammatical object, the grammatical object designates something that is *appearing* in some way to the perceiver. If a man can be said to see a boat, for example, then the boat is appearing to him in some way. Hence, from the statement

- (1) He sees a boat we may infer
- (2) A boat appears in some way to him.

And, if we choose, we may transform our conclusion as

- (3) A boat presents him with an appearance.

But it would be fallacious then to infer

- (4) He sees an appearance.

Let us refer to the inference of (4), from (1), (2), or (3), as an instance of the *sense-datum fallacy*.⁷ One commits this fal-

The Principles of Nature and Grace," sec. 4; in J. E. Erdmann, ed., *Leib-nitii Opera Philosophica* [Berlin, 1840], p. 715).

* The above serves to illustrate "the evolution of concepts" in the development of the individual. Compare V. F. Lenzen on "successive definition," in *Procedures of Empirical Science* (International Encyclopedia of Unified Science, vol. I, no. 5 [Chicago, 1938]), and Arthur Pap, *The A Priori in Physical Theory* (New York, 1946). What we said about secondary-quality words in Chapter Ten, Section 4, provides another illustration of this process.

⁷ H. A. Prichard used the expression "sense-datum fallacy" with a similar

lacy if, from a premise of the form "S perceives a ... which appears ... to him," one infers a conclusion of the form "S perceives an appearance which is. ..." I use the word "fallacy" because (4) does not follow from (1), (2), and (3) and because, I believe, there is no true premise which, when conjoined with (1), (2), and (3), will yield (4) as a conclusion.⁸ Once the sense-datum fallacy has been committed, other mistakes are likely to follow. Perhaps the worst of these—illustrated in terms of our example—is the tendency to infer from (4) the contradictory of (1); namely,

(5) He does not see a boat.

Are there any acceptable premises which, when conjoined with (1), (2), and (3), will yield (4)? Sometimes, I think, philosophers and psychologists tend to reason in this way. Preferring the sense-datum terminology of (3) to the appearing terminology of (2), they note that the sensing of appearances is an indispensable condition of perceiving physical things; that is to say, they note that people wouldn't perceive things unless the things took on appearances for them. They then note that the sensing of appearances, unlike the states of "external" physi-

intent, I believe, but he described the fallacy in quite different terms. According to him, the fallacy consists in "thinking of perceiving as a kind of knowing" (*Knowledge and Perception* [Oxford, 1950], p. 213); I believe that he interpreted his term "perceiving" as I have interpreted "sensing" and that he described what I have called "perceiving" as one type of knowing. Gilbert Ryle's criticism of "the sense-datum theory," in *The Concept of Mind*, and Martin Lean's criticism of "the sensum theory," in *Sense-Perception and Matter* (London, 1953), also concern the sense-datum fallacy. See also P. Coffey, *Epistemology or the Theory of Knowledge*, II, 177 ff., and R. W. Sellars, "Realism, Naturalism, and Humanism," in G. P. Adams and W. P. Montague, eds., *Contemporary American Philosophy*, vol. II (New York, 1930).

⁸ Indeed we have noted in Chapter Eight that it is even a mistake to infer "S senses an appearance which is . . ." from "x appears ... to S."

cal things, takes place only as the effect of physiological and psychological processes. And, thirdly, they note that, often at least, a perceiver can find out what kind of appearances he is sensing—can know how things appear. Appealing to these facts, they then infer that statements such as (4) and (5) are true. Yet if we add a description of these facts, in all their relevant detail, to statements (1), (2), and (3), we still lack the premises needed to establish either (4) or (5).

The belief that people perceive only appearances or that they cannot perceive physical things often results from what seem to be philosophical paradoxes. For example, when we learn about the velocity of light and about the distances of the stars we see at night, we may begin to wonder whether we do see the stars we think we see. And when we are told that stars sometimes disrupt and become extinct and that possibly some of those we see tonight ceased to exist hundreds of years ago, we may feel that there is some paradox involved in supposing that we can perceive anything at all. But the paradox arises only because we tend to assume, until we are taught otherwise, that any event or state of affairs we perceive must exist or occur simultaneously with our perception of it. We tend to assume, more generally, that S can perceive *a* at *t* only if *a* exists at *t*. If we combine this assumption with what we now know about the finite velocity of sound and light, perhaps we can derive the conclusion that no one perceives any of the things he thinks he perceives. But to assume that S can perceive *a* at *t* only if *a* exists at *t* is no more reasonable than to assume that S can receive or reflect light from *a* at *t* only if *a* exists at *t*. The perception of a star that is now extinct should be no more paradoxical than the action of such a star on a photographic plate or its reflection in the water.

Some philosophers might put the foregoing by saying that, properly speaking, we perceive only certain *parts* of things and

that the "temporal parts" we perceive of things always precede our perception of them. But the suggestion that we perceive only certain parts of things leads to still another paradox,

Descartes remarks, in the second of his *Meditations*, that if he were to look into the street where men are walking by, "the terms of ordinary language" might mislead him into saying that he sees men. "Nevertheless what do I see from this window except hats and cloaks which might cover automata? But I judge that they are men, and thus I comprehend, solely by the faculty of judgment which resides in my mind, that which I believed I saw with my eyes." But why not say that he sees men who are wearing hats and cloaks? Descartes's reasoning, apparently, is this: he does not see faces (let us suppose), and he does not see what is covered by the hats or the cloaks; hence (he concludes) he sees only hats and cloaks, not people wearing hats and cloaks. And if he were to continue with this reasoning, he might be led to say, even more strictly, that he does not see the hats or the cloaks. For he does not see the insides of the hats and cloaks; he does not see the sides which face away from him; nor does he even see all of the threads on those sides which do face him. Hence, by reasoning similar to the above, he might conclude that what he sees are at best certain *parts* of the surfaces of the outer parts of one of the sides of the hats and of the cloaks.⁹ The next step in this reasoning would be to conclude: "Indeed, there is no part even of the outer surfaces which I see; for, with respect to any such part, there is, surely, some part of *it* which I do not see. What I see, therefore, cannot be a part of any physical things."¹⁰

⁹ C. D. Broad reasons somewhat this way in *The Mind and Its Place in Nature* (London, 1925), pp. 149-150. Compare Martin Lean's criticism of Broad in *Sense-Perception and Matter*, pp. 65 ff.

¹⁰ Note that this way of trying to show that we don't perceive what we ordinarily think we perceive differs from the courtroom technique discussed in Chapter Six, Section 5.

The mistake involved in this reasoning may be seen, I think, if we consider certain points about the "grammar" of "see" and of other perception words.

The locution "S sees *x*" should not be taken to imply "S sees every part of *x*." In this respect the verb "see" is unlike the verbs "carry," "own," and "contain." A truck cannot carry a box without carrying every part of it; a man cannot own a piece of land unless he owns every part of it; and any piece of land that contains a garden contains every part of the garden.¹¹ The grammar of "see" is more like that of "hit," "destroy," and "inhabit." An automobile may hit a truck without hitting every part of the truck; a bomb may destroy a cathedral without destroying every part of the cathedral; and a philosopher may inhabit Peru without inhabiting every part of Peru. And if "S sees *x*" does not imply "S sees every part of *x*," then "it is false that S sees all of the parts of *x*" does not imply "S does not see *x*."¹²

Our other perception words—"perceive," "hear," "smell,"

¹¹ Compare what H. S. Leonard and Nelson Goodman say about "dissective" and "expansive" predicates in "The Calculus of Individuals and Its Uses," *Journal of Symbolic Logic*, V (1940), especially 54-55. In Goodman's *Structure of Appearance* (Cambridge, Mass., 1951), the following definitions are proposed (pp. 48-49): "A one-place predicate is said to be *dissective* if it is satisfied by every part of every individual that satisfies it"; "a one-place predicate is *expansive* if it is satisfied by everything that has a part satisfying it." Compare also H. Hudson, "People and Part-Whole Talk," *Analysis*, XV (1955), 90-93.

¹² May we say, more strongly, that "S sees some but not all of the parts of *x*" *does* imply "S sees *x*"? The answer, I think, is unclear. The following two points are relevant, (i) It is true that, in seeing one soldier, we don't see the platoon, and in seeing the North Star, we don't thereby see the Little Dipper. But the relation of soldier to platoon, like that of star to constellation, is a relation of member to class rather than one of part to whole, (ii) I have noted above that "see" is like "destroy." A bomb may destroy a part of the cathedral—say, a small part of the roof—without destroying the cathedral.

"taste," "touch," "feel"—are like "see." The locution "S perceives x," for example, does not imply "S perceives every part of x." And the locution "S perceives some but not every part of x" does not imply "S does not perceive x." And so on analogously for the other perception words.

Descartes, in the reasoning I have attributed to him, seems to have overlooked these points. For he notes that, whenever we think we see something, there will be parts of that thing that we don't see; and then he infers that we cannot properly be said to see the thing at all. This mistake is comparable to saying: "Since the philosopher lives in some but not in all parts of Peru, he cannot properly be said to live in Peru at all" or "Since there are parts of the roast which the butcher didn't cut, therefore he didn't really cut the roast."

It is also misleading to say, as Moore does in *Some Main Problems of Philosophy*, that "whenever we talk roughly of seeing any object, it is true that, in another and stricter sense of the word *see*, we only see *a part of it*." ¹³ This is like saying, "whenever we talk roughly about a philosopher living in Peru, it is true that in another and stricter sense of the word 'in,' the philosopher lives, not in Peru, but in only a part of Peru."

5. The belief that what we perceive are the *appearances* of things sometimes leads philosophers to say that we *take appearances to be* the things we would ordinarily be said to perceive. We are said to "identify" the appearance with the thing that is appearing, thus unwittingly taking one thing to be another. Perception is then said to have an "*ersatz* character," to be a "mistaking," an "illusion" and a "sham"—for the perceiver mistakes the appearance for the thing that stimulates it.¹⁴

¹³ G. E. Moore, *Some Main Problems of Philosophy* (London, 1953), p. 34.

¹⁴ Compare H. H. Price, *Perception*, p. 169, and Prichard, *Knowledge and*

Ordinarily, we would not use the word "mistake" unless we thought that the man's (ostensible) perception was "unveridical" or that he was a victim of hallucination. A man might be said to mistake a clump of trees, say, for a house. In this case, it could be said that *what* he perceives is a clump of trees and that he erroneously takes this clump of trees to be a house. But according to the philosophical view I have mentioned, even when the man would be said to take something *veridically* to be a house, (i) what he *perceives* is merely an appearance and (ii) he *mistakes* this appearance for a house.

If what I have said is true, we have found no reason for asserting (i). The object of the perception—what the man perceives—is the house and not the appearance of the house. Hence, we have no ground for asserting (ii). And, in fact, it is very difficult to catch anyone in such a "mistake"—to find anyone being taken in by any such "sham." We have only to ask our perceiver, for example, whether he thinks it's the house, or the appearance of the house, that is appearing to him.

Some of the American "Critical Realists" expressed a similar philosophical view, using the term "substitute" instead of "mistake." Roy Wood Sellars said of appearances that "these sensible characters which are open to inspection and so readily taken to be literal aspects, surfaces, and inherent qualities of physical things are *subjective substitutes* for the corresponding parts of the physical world." ¹⁵ But the word "substitute," it

Perception, pp. 52, 62. Hippolyte Taine used the term "veridical hallucination" in this context. Price has noted that "when Pochard discussed his theory with his colleagues in Oxford, they would often object that normal perception is not mistaking in the sense in which illusory perception is, and they would urge him to admit that some perceptual 'mistakings' are at any rate *less* mistaken than others" (review of Prichard, *op. cit.*, in *Mind*, LX [1951], 117).

¹⁵ "Knowledge and Its Categories," p. 191, included in Durant Drake, *et al.*, *Essays in Critical Realism* (New York, 1920). Despite the fact that

seems to me, is no better than "mistake." Ordinarily if we were to say that a man has *substituted* something A for something else B, we would mean: that he has removed B and replaced it by A; or that he responds to A as he once responded to B; or that, when A is more readily available than B, he uses A, as next best, in the way he would like to use B. But we do not want to say that the perceiver has removed the object and replaced it by the appearance or that he responds to the appearance as he once responded to the object. And we have found no reason for supposing that physical things are not available to be perceived.

It is sometimes said that to perceive something is to "make an inference" or to "frame a hypothesis"—an inference or hypothesis about the causal conditions of sensing. To perceive a man walking, according to this "inferential theory," is to "infer" or "frame the hypothesis" that one's sensory experience has been stimulated by a man walking. I have said that *what* one perceives is indeed the proper stimulus of one's sensory experience. But surely no perceiver, on opening his eyes in the morning, can be said to "infer" that he is surrounded by familiar objects or to "frame the hypothesis" that these objects stimulate the appearances he is sensing. Perceiving no more consists in deducing the causes of sensing than reading consists in deducing the causes of ink marks.

If we do use the words "inference" and "hypothesis" in this context, we cannot take them in their ordinary sense—in the

Sellars speaks of appearances as "substitutes," his essay is a useful criticism of the "sense-datum fallacy." Holding that some appearances "resemble" the things that stimulate them (see Section 3 of the previous chapter), Sellars was able to say that these "substitutes" have a "sort of revelatory identity with the object" (p. 200). C. A. Strong's view in "On the Nature of the Datum," also included in the *Essays in Critical Realism*, was similar; but he later revised it in several important respects.

sense in which a physician, studying symptoms, may be said to "make an inference" or "frame a hypothesis" about the disorders of his patient. Use of the technical psychological terms "unconscious inference" and "interpretation," in this context, serves only to obscure the fact that perceiving is *not* an inference, in the ordinary sense of the word "inference."¹⁶

Nor should we say that the perceiver takes an appearance to be a sign of the object or—what is even more inaccurate—that he takes it to be a kind of *picture*, or reproduction of the object. When writers on philosophy and popular science say that what people perceive are "pictures" or other "representatives" of things, they have apparently deduced this conclusion from the propositions (i) that what people perceive are appearances and (ii) that appearances may be "resemblances of something really existing in the objects themselves." But according to what I have said, the first of these premises is a result of the sense-datum fallacy and is clearly false; and the second is either false or nonsense.

Using "perceive" in its propositional sense, I said in Chapter Six that, whenever a man perceives something to have some characteristic and thus takes it to have that characteristic, he accepts—or assumes—certain propositions about sensing, or "being appeared to." If he takes something to be a row of trees, then, according to my suggestion, he is sensing in a certain way; he assumes, with respect to one of the ways he is sensing, that, if he were not sensing in that way, he would not be perceiving a tree. Moreover, he assumes that, if we were to *act* in certain ways, he would sense in still other ways—ways in which he would not sense if he were not now

¹⁶ There is an excellent criticism of "inferential theories" of perception in D. J. B. Hawkins, *Criticism of Experience* (London, 1945), ch. vi. See also P. G. Winch, "The Notion of 'Suggestion' in Thomas Reid's Theory of Perception," *Philosophical Quarterly*, III (1953), 327-341.

perceiving a tree. In saying that he assumes or accepts these propositions, I do not mean that they are the object of deliberate or conscious inference. In saying that he assumes or accepts them, I mean merely that, if he were to learn that they are false, he would be surprised and would then set out, deliberately and consciously, to revise his store of beliefs.

Ordinarily a perceiver may not notice the way in which the object of his perception happens to be appearing. If we ask him to tell us about what it is that he is perceiving, he will not reply by telling us how the things he is perceiving happen to appear to him. And subsequently he will find it easier to remember *what* it was that he perceived than to remember *how* it was that the objects of his perception happened to look, or otherwise appear, to him. He may be able to recall that he saw a square garden, for example, without being able to recall whether it looked diamond-shaped or rectangular. It is here, perhaps, that the familiar analogy between perception and language is most instructive. Thus one might say, in reporting a conversation, "I don't recall the exact words he used, but I remember his telling me that the climate there is not very pleasant in the winter." One recalls, not the details of the language, but rather what it is that was conveyed. Such points as these are frequently put in metaphors. It is often said, for example, that the object of perception "transcends" the "vehicle" of perception. Reid said that the appearance is likely to "hide itself" behind the shadow of the object perceived and "pass through the mind unobserved."¹⁷ And some writers have used the metaphor of "transparency": one perceives the ob-

¹⁷ Thomas Reid, *An Inquiry into the Human Mind*, ch. v, secs. 2 and 8. Compare Roderick Firth's discussion of these facts in "Sense Data and the Percept Theory," *Mind*, LVIII (1949), 434-465. Firth challenges us to show that we *are* appeared to on such occasions. I am convinced that we are, but it would be difficult to show that we are.

ject "through" the sensible appearance.¹⁸ But, I suggest, to say of a man that he *does not notice* the way he is appeared to is to say that, although he is appeared to in that way, it is false that he believes—that he accepts the proposition—that he is appeared to in that way. (It is essential to our theory of evidence that we do not, at this point, confuse the locutions "It is false that S accepts *h*" and "S accepts *non-h*").

There are times when appearances play a more important role than they do in ordinary perception. We have seen that people can be led to *defend* their perceptual statements by making statements about the way in which the object of their perception appears. If an appearance is painful, or pleasurable, or aesthetically significant, it may be of more interest than the object which appears and hence it is no longer "transparent."¹⁹ The appearance may also be of interest when the conditions of observation are under investigation. One's concern in the optometrist's shop is not with what the particular letters on the chart may happen to be, but with the way in which they appear. The man in charge of the stage lighting will be concerned not with the actual colors of the setting, but with the way in which they appear under certain conditions. And philosophers and psychologists, studying perception, may be concerned with the nature of the appearances rather than with the objects which appear. The peculiar talent of the psychologist, according to Wundt and Titchener and their followers, is his skill in at-

¹⁸ Compare Edmund Husserl, *Logische Untersuchungen*, vol. II, pt. II, pp. 237-238.

¹⁹ Compare Arthur Schopenhauer: "Those sensations which principally serve for the objective comprehension of the external world must in themselves be neither agreeable nor disagreeable. This really means that they must leave the will entirely unaffected. Otherwise the sensation *itself* would attract our attention . . ." (*The World as Will and Idea* [tr. by R. G. Haldane and John Kemp], II, 193; see also 189-190). Compare in addition Reid's *Essays on the Intellectual Powers*, ch. v, sec. 2.

tending to the appearance rather than to the object of perception; and it is difficult to attain this skill, since in order to do so one must overcome the natural habit of "looking through" the appearance.²⁰

6. Corresponding to the propositional and nonpropositional senses of *perceiving*, a distinction may be made between two kinds of *deception* or *error*.

What is usually called "unveridical" perceiving—what we might call "mistaking"—is an error which may be contrasted with perceiving, in the propositional sense of "perceiving." But *hallucination*, in one of its extreme forms, is an error, or a type of deception, which may be contrasted with perceiving, in *both* the propositional and the nonpropositional senses of "perceive."

A victim of hallucination may think he sees an animal—may *take* something to be an animal—at a time when *nothing* is appearing to him. He may be sensing in one of the ways he would sense if he were looking at an animal, but he is not sensing "with respect to" anything—his experience is not the result of any proper stimulus. His error, therefore, is not merely a matter of mistaking. It is not merely a matter of taking the proper stimulus to have some characteristic that it does not have; for there is *no* proper stimulus. We allow ourselves to say that he "takes something" to be an animal; but strictly there is no "something" there.²¹ Perhaps we could say that his error is that

²⁰ Reid says that this habit, which "has been gathering strength ever since we began to think," is one "the usefulness of which, in common life, atones for the difficulty it creates to the philosopher" (*Essays on the Intellectual Powers*, ch. v, sec. 2). According to what I suggested in the previous chapter (Section 4), we do not even "begin" by considering appearances.

²¹ Note that I defined "S takes x to be /" (Chapter Six, Section 3) in terms of "S is appeared to (senses) in a certain way" and *not* in terms of "S is appeared to (senses) in a certain way *with respect to* something" or

of assuming that there *is* something which is appearing. (Even if we know that the source of his hallucination was a drug, or some organic defect, we are not tempted to say that it was the drug or the organic defect which appeared to him.) According to Reid, mistakes of this sort—which are commonly made only "in a delirium or in madness"—are the only mistakes properly called "deceptions of sense."²²

The linguistic counterpart of this extreme form of hallucination is what might be called "mistaken indication." Whenever we perceive anything, we can express our perception in statements wherein the things perceived are designated—or indicated—by demonstrative terms alone. If we can say, "That boat looks green," we may reformulate our statement as "That is (identical with) a boat and looks green," using "that" purely demonstratively to indicate the thing which, as it happens, we have taken to be a boat and which looks green. Even if we use the terminology of "appearance," saying, "That boat takes on a green appearance," the demonstrative term indicates, not the appearance, but the thing we have taken to be a boat.²³ When the victim of hallucination uses a demonstrative term, saying, "That is a rat," the term "that" may seem to indicate, or pur-

" Something appears in a certain way to S." The statement "S takes something to be red," given our definition of "taking," does *not* entail "Something is appearing in some way to S." If it did, then sensibly-taking, contrary to our theory of evidence (Chapter Six, Section 5), would no longer fulfill our second condition for a mark of evidence (Chapter Three, Section 3); the victim of hallucination would be quite capable of believing falsely that something is appearing to him (in the sense of "appear" defined in the present chapter), and therefore he would be quite capable of believing falsely that he was taking something to be red.

²² Reid, *Essays on the Intellectual Powers*, Essay II, ch. xiii.

²³ Compare Husserl, *op. cit.*, vol. II, pt. II, especially pp. 14-16; Price, *Perception*, ch. vi; A. N. Whitehead, "Indication, Classes, Numbers, Validation," in *Essays in Science and Philosophy* (New York, 1947), especially pp. 313-314.

port to indicate, but actually it indicates nothing.²⁴ It cannot indicate the proper stimulus—the thing that appears—because, in this instance, there is no proper stimulus; nothing appears. But the man who mistakes a pile of rocks for a house and says, "That is a house," does not make a mistake of indication, for his word "that" does indicate something—it indicates the thing that appears.

7. Let us consider, finally, some of the more interesting relations holding between the propositional and nonpropositional uses of perception words.

The statement "Jones saw that a boy was running away," which has a propositional object, entails "Jones saw a boy," which has only a noun object. More generally, whenever we can say, "S perceives that x is f " or "S perceives x to be f ," we can infer "S perceives x " and "S perceives an f ." But the converse does not hold. Given "S perceives an f ," we cannot infer that there is an x such that S perceives that x is f . If, unknown to Jones, the boy he saw happened to be the thief who took the money, then we could say, "Jones saw a thief," even though Jones did not *take* him to be a thief. We could also say, "Jones saw the boy who took the money"—where the propositional clause, "who took the money," is not itself the object of the verb, but is a phrase modifying the nonpropositional object of the verb. We could *not* say, however, "Jones saw that the boy was the thief" or "Jones saw that the boy was the one who took the money." Once the thief is caught, Jones may then

²⁴ Usually when logicians talk about demonstrative or indexical terms, they do not allow for the possibility of "mistaken indication"—that is, the possibility that these terms may "purport to indicate" without indicating anything. But see Arthur W. Burks, "Icon, Index, and Symbol," *Philosophy and Phenomenological Research*, IX (1949), especially 688-689, and A. J. Ayer, *Philosophical Essays*, p. 8 on. The phrase "purport to designate" is used by W. V. Quine; see *Methods of Logic* (New York, 1950), sec. 34.

say regretfully, "I saw the thief as he was making his getaway; it's a pity I didn't realize it at the time."

We have already noted that the propositional locution "S perceives x to be f " entails "S assumes—or accepts the proposition—that x is f ." If Jones *saw that* the boy was running away, then, clearly, Jones accepted the proposition that the boy was running away. But the nonpropositional use of these words does not entail any such statements about accepting or assuming. One may say, quite consistently, "Jones saw the thief, but thought he was someone else and not the thief at all."²⁵ (I suggested, in Section 3 above, that a nonpropositional locution such as "Jones saw a thief," in its ordinary interpretation, may imply that Jones took—and thus believed—the thing he saw to be *something* or other. But it doesn't imply that he took it to be a thief.)

Occasionally our formulation of perceptual statements is ambiguous in that we do not make clear whether or not the object of the verb is to be taken propositionally, "Jones saw the thief running away" might mean, as in our present example, that the boy whom Jones saw was, unknown to Jones, a thief who was running away. But it might also mean the same as "Jones saw that the boy was a thief and that he was running away." And the denials of nonpropositional perceptual statements are sometimes ambiguous. We may say of a lady, trying to find a spoon on her kitchen shelf, "She was looking at it all the time and didn't see it!" But if she was looking at the spoon, she *did* see it; what she didn't see was that the thing she was looking at was the thing she was trying to find.

²⁵ Some of these points are also discussed in G. J. Warnock, "Seeing," *Proceedings of the Aristotelian Society* (vol. LV, 1954-1955), and G. N. A. Vesey, "Seeing and Seeing as," *Proceedings of the Aristotelian Society* (vol. LVI, 1955-1956). I have avoided "seeing as," in the present context, because this expression has a number of quite different uses in psychological literature.

Use of the first person introduces a further complication. Although one can say, "Jones sees a thief without realizing it," one cannot say, "I see a thief without realizing it." "I see a thief"—a first-person statement in the present tense—entails, or presupposes, "I take something to be a thief" or "I believe something to be a thief."²⁶ But "I saw a thief"—a first-person statement in the past tense—does *not* entail, or presuppose, that I believed or took anything to be a thief. And "I shall see a thief" may be used without implying that I shall believe the thing I see to be a thief.

Such verbs as "watch," "look at," "listen," "sniff," "savor," and "scrutinize" are closely related to our perception words. But unlike "see," "hear," and "perceive," they are ordinarily used to designate purposive *activities*. We can consent or refuse to watch, look, and listen; but we cannot—in the same sense—consent or refuse to see, hear, and perceive. We may watch or listen to something *carefully*, or *efficiently*, or *confidently*. But we cannot be said to see it, or to hear or perceive it, carefully, efficiently, or confidently.²⁷ These activity verbs—"watch," "listen," "look at," and the like—are nonpropositional; unlike "perceive" and "see," they do not take propositional clauses as their grammatical objects. But when we wish to describe the *successes* or *failures* of these activities, we must use perceptual words in their *propositional* senses. For these successes and failures are epistemic—and can be described only by means of

²⁶ Whether we use "entail" or some other word in this context depends on our solution to the puzzle: "If Thomas were honestly to assert, 'Mushrooms are poisonous, but I don't believe it' would he be contradicting himself?" Max Black defines a relation of *presupposition* which he would substitute for that of *entailment* in such contexts; see his *Problems of Analysis*, ch. ii.

²⁷ See Ryle, *op. cit.*, pp. 149 ff., 238 ff. There is an excellent account of such words by J. N. Sibley in "Seeking, Scrutinizing, and Seeing," *Mind*, XLIV (1955), 455-478. See also Gwynneth Matthews, "A Note on Inference as Action," *Analysis*, XVI (1955), 116-117.

an epistemic vocabulary. If a man is watching, listening, examining, or investigating, then he has a purpose which can be fulfilled only if he perceives *that* a certain thing has a certain property.²⁸

²⁸ I regret that I did not see J. R. Smythies' *Analysis of Perception* (London, 1956), until the present book was ready for publication. Smythies interprets the findings of contemporary neurology and neurophysiology and relates them to the philosophy of perception. Although I believe his interpretation presupposes solutions to some of the problems discussed here, much of what he says is relevant to what I have tried to say. Had I seen his book earlier, I would have expressed parts of the present chapter somewhat differently.