A claim to the effect that certain creatures possess a faculty which should be counted as a sense, different from any of those with which we are familiar, might be met in more than one way, without actual repudiation of the alleged facts on which the claim is based.\textsuperscript{1} It might be said that this faculty, though possibly in some way informative about the world, was not a faculty of perceiving; or it might be admitted that the exercise of the faculty constituted perception, and maintained that no new sense was involved, but only one of the familiar ones operating, perhaps, in some unfamiliar way.

About the first alternative I shall not say a great deal. It embraces a number of subalternatives:

(1) The faculty might be assimilated to such things as a moral sense, or a sense of humor. These are dubiously informative; and even if treated as informative, could not be regarded as telling (in the first instance) only about conditions of the world spatially and temporally present to the creature who is exercising them.

(2) The faculty might be held to be some kind of power of divination. This line might be adopted if the creature seemed to have direct (noninferential) knowledge of certain contemporary states or events in the material world, though this knowledge was not connected with the operation of any sense-organ. We should, of course, be very reluctant to accept this subalternative. We should so far as possible cling to the idea that such knowledge must be connected with the operation of a sense-organ, even if we could not identify it.

(3) The exercise of the faculty—let us call it x-ing—might be denied the title of perception because of its analogy with the having of sensations. It might be held that x-ing consisted in having some sort of experience generated by material things or events in the x-er’s environment by way of some effect on his nervous system, though it did not qualify as perceiving the things or events in question. The kind of
situation in which this view might be taken may perhaps be indicated if we con-
sider the assaults made by physiologists and psychologists on the so-called “sense
of touch.” They wish, I think on neurological grounds, to distinguish three senses:
a pressure-sense, a warm-and-cold sense, and a pain-sense. Would we be happy to
accept their pain-sense as a sense in the way in which sight or smell is a sense? I
think not; for to do so would involve regarding the fact that we do not “external-
ize” pains as a mere linguistic accident. That is to say, it would involve considering
as unimportant the following facts: (a) that we are ready to regard “malodorous,”
as distinct from “painful” or “sharply painful,” as the name of a relatively abiding
characteristic which material things in general either possess or do not possess; we
are as a general rule prepared to regard questions of the form ‘Is M (a material
thing) malodorous?’ as being at least in principle answerable either affirmatively or
negatively, whereas we should very often wish to reject questions of the form “Is
M painful?” or “Is M sharply painful?”; and (b) that we speak of smells but not of
pains as being in the kitchen.

Very briefly, the salient points here seem to me as follows:

(a) Pains are not greatly variegated, except in intensity and location. Smells are.
(b) There is no standard procedure for getting a pain: one can be cut, bumped,
burned, scraped, and so on. There is a standard procedure for smelling, namely,
inhaling.
(c) Almost any type of object can inflict pain upon us, often in more than one
way.

In consequence of these facts, our pains are on the whole very poor guides to the
character of the things that hurt us. Particular kinds of smells, on the other hand,
are in general characteristic of this or that type of object. These considerations I
hope constitute a partial explanation of the fact that we do not, in general, attrib-
ute pain-qualities to things: we may in a special case speak of a thumbscrew, for
example, as being a painful instrument, but this is because there is a standard way
of applying thumbscrews to people.

We do not speak of pains as being in (say) the kitchen; and the reason for this is,
I think, that if a source of pain moves away from a given place, persons arriving in
this place after the removal do not get hurt. Smells, on the other hand, do linger
in places, and so are “detachable” from the material objects which are their source.
Though pains do not linger in places, they do linger with individuals after the source
of pain has been removed. In this again they are unlike smells.
I shall now turn to discussion of the second possible way of meeting the claim of x-ing to be the exercise of a new sense. This, you will remember, took the form of arguing that x-ing, though perceiving, is merely perceiving by one of the familiar senses, perhaps through an unfamiliar kind of sense-organ. At this point we need to ask by what criteria senses are to be distinguished from one another. The answer to this question, if obtainable, would tell us how x-ing must differ from the exercise of familiar senses in order to count as the operation of a distinct sense. Four seemingly independent ideas might be involved:

I. It might be suggested that the senses are to be distinguished by the differing features that we become aware of by means of them: that is to say, seeing might be characterized as perceiving (or seeming to perceive) things as having certain colors, shapes, and sizes; hearing as perceiving things (or better, in this case, events) as having certain degrees of loudness, certain determinates of pitch, certain tone-qualities; and so on for the other senses.

II. It might be suggested that two senses, for example, seeing and smelling, are to be distinguished by the special introspectible character of the experiences of seeing and smelling; that is, disregarding the differences between the characteristics we learn about by sight and smell, we are entitled to say that seeing is itself different in character from smelling.

III. Our attention might be drawn to the differing general features of the external physical conditions on which the various modes of perceiving depend, to differences in the “stimuli” connected with different senses: the sense of touch is activated by contact, sight by light rays, hearing by sound waves, and so on.

IV. Reference might be made to the internal mechanisms associated with the various senses—the character of the sense-organs, and their mode of connection with the brain. (These suggestions need not of course be regarded as mutually exclusive. It is possible—perhaps indeed likely—that there is no one essential criterion for distinguishing the senses; that there is, rather, a multiplicity of criteria.)

One procedure at this point (perhaps the most desirable one) would be to consider, in relation to difficult cases, the applicability of the suggested criteria and their relative weights. But a combination of ignorance of zoology with poverty of invention diverts me to perhaps not uninteresting questions concerning the independence of these criteria, and in particular to the relation between the first and the second. The first suggestion (that differing senses are to be distinguished by the differing features which we perceive by means of them) may seem at first sight attractive and unmystifying; but difficulties seem to arise if we attempt to make it the sole basis
of distinction between the senses. It looks as if, when we try to work out suggestion (I) in detail we are brought round to some version of the second suggestion (that the senses are to be distinguished by the special introspectible characters of their exercise).

There is a danger that suggestion (I) may incorporate from the start, in a concealed way, suggestion (II): for instance, to adopt it might amount to saying “Seeing is the sort of experience that we have when we perceive things as having certain colors, shapes, etc.” If we are to eliminate this danger, I think we must treat suggestion (I) as advancing the idea that, starting with such sense-neutral verbs as “perceive,” “seem,” we can elucidate the notion of seeing in terms of the notion of perceiving things to have such-and-such features, smelling in terms of perceiving things to have such-and-such other features, and so on. In general, special perceptual verbs are to be explained in terms of general perceptual verbs together with names of special generic features which material things or events may be perceived to have. At this point an obvious difficulty arises: among the features which would presumably figure in the list of tactual qualities (which are to be used to distinguish feeling from other modes of perceiving) is that of warmth; but to say that someone perceives something to have a certain degree of warmth does not entail that he is feeling anything at all, for we can see that things are warm, and things can look warm.

To extricate the suggestion from this objection, it looks as if it would be necessary to introduce some such term as “directly perceive” (and perhaps also the term “directly seem,” the two terms being no doubt definitionally linked). How precisely these terms would have to be defined I do not propose to inquire, but the definition would have to be such as to ensure that someone who saw that something was blue might be directly perceiving that it was blue, while someone who saw that something was warm could not be directly perceiving that it was warm. We then might try to define “see” and its congeneres (and primary uses of “look” and its congeneres) in terms of these specially introduced verbs. We might put up the following as samples of rough equivalences, without troubling ourselves too much about details, since all we require for present purposes is to see the general lines on which the initial suggestion will have to be developed:

1. X sees M (material object) = X directly perceives M to have some color and some spatial property.
2. X feels M = X directly perceives M to have some spatial property and degrees of one or more of such properties as warmth (coldness), hardness (softness), etc.
(3) M looks (primary sense) to X = M directly seems to X to have certain spatial and color properties, one of which is \( \phi \).

(4) M looks (secondary sense) to X = M directly seems to X to have certain spatial and color properties, one or more of which indicate to X that M is or may be \( \phi \).

Analogous definitions could be provided for primary and secondary uses of “feel” (with a nonpersonal subject).

This maneuver fails, I think, to put suggestion (I) in the clear. Some might object to the definitions of verbs like “see” (used with a direct object) in terms of “perceive that”; and there would remain the question of defining the special terms “directly perceive” and “directly seem.” But a more immediately serious difficulty seems to me to be one connected with the seemingly unquestionable acceptability of the proposition that spatial properties may be directly perceived to belong to things both by sight and by touch. Suppose a man to be resting a half-crown on the palm of one hand and a penny on the palm of the other: he might (perhaps truthfully) say, “The half-crown looks to me larger than the penny, though they feel the same size.” If we apply the rough translations indicated above, this statement comes out thus: “The half-crown and the penny directly seem to me to have certain spatial and color properties, including (in the case of the half-crown) that of being larger than the penny: but they also directly seem to me to have certain properties, such as certain degrees of roughness, warmth, etc., and spatial properties which include that of being equal in size.”

The facts stated by this rigmarole seem to be (differently ordered) as follows:

1. The coins directly seem to have certain spatial and color properties.
2. The coins directly seem to have certain properties drawn from the “tactual” list.
3. The half-crown directly seems larger than the penny.
4. The coins directly seem to be of the same size.

But there is nothing in this statement of the facts to tell us whether the coins look different in size but feel the same size, or alternatively feel different in size but look the same size.

At this point two somewhat heroic courses suggest themselves. The first is to proclaim an ambiguity in the expression “size,” distinguishing between visual size and tactual size, thus denying that spatial properties are really accessible to more than one sense. This more or less Berkeleian position is perhaps unattractive independently of the current argument; in any case the introduction of the qualifications
“visual” and “tactual,” in the course of an attempt to distinguish the senses from one another without invoking the special character of the various modes of perceiving, is open to the gravest suspicion. The second course is to amend the accounts of looking and feeling in such a way that, for example, “A looks larger than B” is re-expressible more or less as follows: “A directly seems larger than B in the kind of way which entails that A and B directly seem to have certain color-properties.” But this seems to introduce a reference to special kinds or varieties of “direct seeming,” and this brings in what seems to be only a variant version of suggestion (II).

But there is a rather more subtle course to be considered. In addition to the link (whatever that may be) which may join certain generic properties (e.g., color, shape, size) so as to constitute them as members of a group of properties associated with a particular sense (e.g., as visual properties), another kind of link may be indicated which holds between specific properties (e.g., specific colors and shapes, etc.), and which might be of use in dealing with the difficulty raised by this current example. Suppose that A1 is a specific form of some generic property which occurs only in the visual list (e.g., a particular color), that B1 is a specific form of some generic property occurring in only the tactual list (e.g., a particular degree of warmth), and that X1 and X2 are specific forms of a generic property occurring in both the visual and the tactual lists (e.g., are particular shapes). Suppose further that someone simultaneously detects or seems to detect the presence of all these properties (A1, B1, X1, X2) in a given object. Now the percipient might find that he could continue to detect or seem to detect A1 and X1 while no longer detecting or seeming to detect B1 and X2; and equally that he could detect or seem to detect B1 and X2 while no longer detecting or seeming to detect A1 and X1; but on the other hand that he could not retain A1 and X2 while eliminating B1 and X1, or retain B1 and X1 while eliminating A1 and X2. There would thus be what might be called a “detection-link” between A1 and X1, and another such link between B1 and X2. On the basis of this link between X1 and a purely visual property it might be decided that X1 was being visually detected, and analogously it might be decided that X2 was being tactually detected. Similarly in the example of the coins one might say that there is a detection-link between inequality of size and certain purely visual properties the coins have or seem to have (e.g., their real or apparent colors) and a detection-link between equality of size and certain purely tactual properties the coins have or seem to have (e.g., their coldness): and thus the difficulty may be resolved.
There are three considerations which prevent me from being satisfied with this attempt to make suggestion (I) serviceable. I put them in what I regard as the order of increasing importance:

1) Consider the possible case of a percipient to whom the two coins look equal in size when only seen, feel equal in size when only felt, but look unequal and feel equal when both seen and felt. This case is no doubt fantastic, but nevertheless it seems just an empirical matter whether or not the way things appear to one sense is affected in this sort of way by the operation or inoperation of another sense. If such a case were to occur, then the method adumbrated in my previous paragraph would be quite inadequate to deal with it: for equality of size would be codetectable both with visual properties alone and with tactual properties alone, whereas inequality in size would be codetectable neither with visual properties alone nor with tactual properties alone. So the percipient would, so far as this test goes, be at a loss to decide by which sense he detected (or seemed to detect) inequality. But I doubt whether this conclusion is acceptable.

2) If it were possible for a creature to have two different senses by each of which he detected just the same generic properties, then the test suggested could not be applied in the case of those senses; for it depends on these being properties accessible to one but not both of two senses with regard to which it is invoked. It is far from clear to me that it is inconceivable that just the same set of generic properties should be detectable by either one of two different senses. (I touch again on this question later.)

3) Whether or not the suggested test, if applied, would always rightly answer the question whether a given spatial property is on a given occasion being detected by sight or touch, it seems quite certain that we never do employ this method of deciding such a question. Indeed there seems something peculiar about the idea of using any method, for the answer to such a question, asked about ourselves, never seems in the slightest doubt. And it seems rather strange to make the difference between detecting (or seeming to detect) a given property by sight and detecting (or seeming to detect) it by touch turn on what would be the result of an experiment which we should never in any circumstances perform.

Suggestion (I) has a further unattractive feature. According to it, certain properties are listed as visual properties, certain others as tactual properties, and so forth; and to say that color is a visual property would seem to amount to no more than saying that color is a member of a group of properties the others of which are . . .
This leaves membership of the group as an apparently arbitrary matter. I now wish to see if some general account of the notion of a visual (tactual, etc.) property could be given if (as suggestion (II) would allow) we make unhampered use of special perceptual verbs like “see” and “look.” I shall go into this question perhaps rather more fully than the immediate purposes of the discussion demand, since it seems to me to be of some intrinsic interest. I doubt if such expressions as “visual property” and “tactual property,” have any clear-cut accepted use, so what follows should be regarded as a preliminary to deciding upon a use, rather than as the analysis of an existing one. I shall confine myself to the notion of a visual property, hoping that the discussion of this could be adapted to deal with the other senses (not, of course, necessarily in the same way in each case).

First, I suggest that we take it to be a necessary (though not a sufficient) condition of a property P being a visual property that it should be linguistically correct to speak of someone as seeing that some material thing M is P, and also (with one qualification to be mentioned later) of some thing M as looking P to someone. Within the class of properties which satisfy this condition I want to make some distinctions which belong to two nonindependent dimensions, one of which I shall call “determinability,” the other “complexity”:

1) There are certain properties (for example, that of being blue) such that if P is one of them there is no better way (though there may be an equally good way) for me to make sure that a thing M is P than to satisfy myself that, observational conditions being optimal, M looks P to me. Such properties I shall label “directly visually determinable.”

2) It seems to me that there might be a case for labeling some properties as visually determinable, though indirectly so. I have in mind two possible kinds of indirectness. First, it might be the case that a primary (noninferior) test for determining whether M is P would be not just to ensure that M looked P in the most favorable conditions for observation, but to ensure, by scrutiny, that certain parts (in a wide sense) or elements of M had certain characteristics and were interrelated in certain ways; it being understood that the characteristics and relations in question are to be themselves directly visually determinable. For me, though no doubt not for a Chinese, the property of being inscribed with a certain Chinese character might be of this kind; and for everyone no doubt the property of having a chiliagonal surface would be of this kind. Second, a characteristic might be such that its primary test involved comparison of M (or its elements) with some standard specimen. Under this head I mean to take in both such properties as being apple-green, for which the
primary test involves comparison with a color chart, and such a property as that of being two feet seven inches long, the primary test for which is measurement by a ruler. It is to be understood that the results of such comparison or measurement are to be describable in terms of properties which are directly visually determinable.

It seems to me possible that “visual characteristic” might be used in such a way that P would qualify as a visual characteristic only if it were directly visually determinable, or in such a way that it would so qualify if it were visually determinable either directly or indirectly. But there also seems to be a different, though I think linked, basis of classification, which might also be employed to fix the sense of the expression “visual characteristic.” There will be some values of P such that an object M may be said to look P, with regard to which the question, “What is it about the way that M looks that makes it look P?” has no answer. More generally, it will be impossible to specify anything about the way things look, when they look P, which will account for or determine their looking P. One cannot, for example, specify anything about the way things look when they look blue, which makes them look blue. Characteristics for which this rough condition is satisfied I will call “visually simple.” But with regard to those values of P which are such that a thing may look P, but which are not visually simple, there are various possibilities:

(1) The specification of what it is about the way a thing looks which makes it look P, or determines it to look P, may consist in specifying certain characteristics (of the visually determinable kind) which M has or looks to have, the presence of which indicates more or less reliably that M is P. Warmth is such a characteristic. In this kind of case P will not be visually determinable, and I should like to say that P is not a visual characteristic, and is neither visually simple nor visually complex. P will be merely “visually indicable.”

(2) The specification of what it is about the way a thing M looks which makes it look P or determines it to look P might take the form of specifying certain properties (of a visually determinable or visually simple kind or both) the possession of which constitutes a logically sufficient condition for being P. The property of being lopsided might be of this kind. A man’s face could perhaps be said to be made to look lopsided by his looking as if he had (and perhaps indeed his actually having) one ear set lower than the other; and his actually having one ear set lower than the other would perhaps be a logically sufficient condition of his face’s being lopsided. Characteristics belonging to this class I will label “visually tightly complex.”

(3) Consider such examples as “X’s face looks friendly” or “X looks tough.” Certainly friendliness and toughness are not themselves visually determinable: and
certainly the questions “What is there about the way his face looks that makes it look friendly?” and “What is there about the way he looks that makes him look tough?” are in order. Nevertheless there may be considerable difficulty in answering such questions; and when the answer or partial answer comes, it may not amount to saying what it is about the look of X’s face (or of X) which indicates more or less reliably that X is friendly (or tough). In such cases one might be inclined to say that though toughness is not a visual characteristic, being tough-looking is. The following remarks seem in point:

(4) It might be thought necessary, for this type of characteristic, to relax the initial condition which visual characteristics were required to satisfy, on the grounds that one cannot speak of someone as “looking tough-looking.” But as Albritton has pointed out to me, it does not seem linguistically improper to say of someone that (for example) he looked tough-looking when he stood in the dim light of the passage, but as soon as he moved into the room it could be seen that really he looked quite gentle.

(a) Being tough-looking is in some way dependent on the possession of visually determinable characteristics: there would be a logical absurdity in saying that two people were identical in respect of all visually determinable characteristics, and yet that one person was tough-looking and the other was not.

(b) Even if one has specified to one’s full satisfaction what it is about the way X looks that make him look tough, one has not given a logically sufficient condition for being tough-looking. If I just produced a list of X’s visually determinable characteristics, the possession of which does in fact make him look tough, no one could strictly deduce from the information given that X looks tough; to make quite sure, he would have to look at X himself.

(c) Though the primary test for determining whether X is tough-looking is to see how he looks in the most favorable observational conditions, this test may not (perhaps cannot) be absolutely decisive. If, after examination of X, I and my friends say that X is tough-looking, and someone else says that he is not, it need not be the case that the last-mentioned person is wrong or does not know the language; he may for example be impressed by some dissimilarity between X and standard tough customers, by which I and my friends are not impressed, in which case the dissident judgment may perhaps be described as eccentric, but not as wrong. In the light of this discussion one might say that such characteristics as being tough-looking are “visually near-determinable”; and they might also be ranked as visually complex (in view of their dependence on visually determinable characteristics), though “loosely
complex” (in view of the nonexistence of logically sufficient conditions of their presence).

(5) The logical relations between the different sections of the determinability range and those of the simplicity-complexity range may need detailed examination. For instance, consider the statement “The sound of the explosion came from my right” (or “The explosion sounded as if it were on my right”). It may be impossible to specify anything about the way the explosion sounded which determined its sounding as if it were on my right, in which case by my criterion being on my right will qualify as an auditory simple property. Yet certainly the explosion’s sounding, even in the most favorable observational conditions, as if it were on my right is a secondary (inferior) test for the location of the explosion. So we would have an example of a property which is auditorily simple without being auditorily determinable. This may be of interest in view of the hesitation we may feel when asked if spatial characteristics can be auditory.

I should like to emphasize that I have not been trying to legislate upon the scope to be given to the notion of a visual characteristic, but have only been trying to provide materials for such legislation on the assumption that the special character of visual experience may be used to distinguish the sense of sight, thus allowing a relatively unguarded use of such words as “look.”

Let us now for a moment turn our attention to suggestion (II), the idea that senses are to be distinguished by the special character of the experiences which their exercise involves. Two fairly obvious difficulties might be raised. First, that such experiences (if experiences they be) as seeing and feeling seem to be, as it were, diaphanous: if we were asked to pay close attention, on a given occasion, to our seeing or feeling as distinct from what was being seen or felt, we should not know how to proceed; and the attempt to describe the differences between seeing and feeling seems to dissolve into a description of what we see and what we feel. How then can seeing and feeling have the special character which suggestion (II) requires them to have, if this character resists both inspection and description? The second difficulty is perhaps even more serious. If to see is to detect by means of a special kind of experience, will it not be just a contingent matter that the characteristics we detect by means of this kind of experience are such things as color and shape? Might it not have been the case that we thus detected characteristic smells, either instead of or as well as colors and shapes? But it does not seem to be just a contingent fact that we do not see the smells of things. Suggestion (I), on the other hand, seems to avoid both these difficulties; the first because the special character
of the experiences connected with the various senses is not invoked, and the second because since the smell of a thing is not listed among the properties the (direct) detection of which counts as seeing, on this view it emerges as tautological that smells cannot be seen.

We seem now to have reached an impasse. Any attempt to make suggestion (I) work leads to difficulties which seem soluble only if we bring in suggestion (II), and suggestion (II) in its turn involves difficulties which seem avoidable only by adopting suggestion (I). Is it the case, then, that the two criteria should be combined; that is, is the right answer that, for anything to count as a case of seeing, two conditions must be fulfilled: first, that the properties detected should belong to a certain group, and second, that the detection should involve a certain kind of experience? But this does not seem to be a satisfactory way out; for if it were, then it will be logically possible to detect smells by means of the type of experience characteristically involved in seeing, yet only to do this would not be to see smells, since a further condition (the property qualification) would be unfulfilled. But surely we object on logical grounds no less to the idea that we might detect smells through visual experiences than to the idea that we might see the smells of things: indeed, the ideas seem to be the same. So perhaps the criteria mentioned in suggestions (I) and (II) are not distinguishable; yet they seem to be distinct.

Maybe all is not yet lost, for there still remains the possibility that something may be achieved by bringing into the discussion the third and fourth suggestions. Perhaps we might save suggestion (I), and thus eliminate suggestion (II), by combining the former with one or both of the last two suggestions. For if to see is to detect certain properties (from the visual list) by means of a certain sort of mechanism (internal or external or both), then the arguments previously advanced to show the need for importing suggestion (II) seem to lose their force. We can now differentiate between the case in which two coins look different in size but feel the same size and the case in which they feel different in size but look the same size: we shall say that in the first case by mechanism A (eyes and affection by light waves) we detect or seem to detect difference in size while by mechanism B (hands and pressure) we detect or seem to detect equality of size: whereas in the second case the mechanisms are transposed. We can also characterize the visual list of properties as those detectable by mechanism A, and deal analogously with other lists of properties. In this way the need to invoke suggestion (II) seems to be eliminated.

Promising as this approach may appear, I very much doubt if it succeeds in eliminating the need to appeal to the special character of experiences in order to dis-
tistinguish the senses. Suppose that long-awaited invasion of the Martians takes place, that they turn out to be friendly creatures and teach us their language. We get on all right, except that we find no verb in their language which unquestionably corresponds to our verb “see.” Instead we find two verbs which we decide to render as “x” and “y”: we find that (in their tongue) they speak of themselves as x-ing, and also as y-ing, things to be of this and that color, size, and shape. Further, in physical appearance they are more or less like ourselves, except that in their heads they have, one above the other, two pairs of organs, not perhaps exactly like one another, but each pair more or less like our eyes: each pair of organs is found to be sensitive to light waves. It turns out that for them x-ing is dependent on the operation of the upper organs, and y-ing on that of the lower organs. The question which it seems natural to ask is this: Are x-ing and y-ing both cases of seeing, the difference between them being that x-ing is seeing with the upper organs, and y-ing is seeing with the lower organs? Or alternatively, do one or both of these accomplishments constitute the exercise of a new sense, other than that of sight? If we adopt, to distinguish the senses, a combination of suggestion (I) with one or both of suggestions (III) or (IV), the answer seems clear: both x-ing and y-ing are seeing, with different pairs of organs. But is the question really to be settled so easily? Would we not in fact want to ask whether x-ing something to be round was like y-ing it to be round, or whether when something x-ed blue to them this was like or unlike its y-ing blue to them? If in answer to such questions as these they said, “Oh no, there’s all the difference in the world!” then I think we should be inclined to say that either x-ing or y-ing (if not both) must be something other than seeing: we might of course be quite unable to decide which (if either) was seeing.

(I am aware that here those whose approach is more Wittgensteinian than my own might complain that unless something more can be said about how the difference between x-ing and y-ing might “come out” or show itself in publicly observable phenomena, then the claim by the supposed Martians that x-ing and y-ing are different would be one of which nothing could be made, which would leave one at a loss how to understand it. First, I am not convinced of the need for “introspectible” differences to show themselves in the way this approach demands (I shall not discuss this point further); second, I think that if I have to meet this demand, I can. One can suppose that one or more of these Martians acquired the use of the lower y-ing organs at some comparatively late date in their careers, and that at the same time (perhaps for experimental purposes) the operation of the upper x-ing organs was inhibited. One might now be ready to allow that a difference between
x-ing and y-ing would have shown itself if in such a situation the creatures using their y-ing organs for the first time were unable straightaway, without any learning process, to use their “color”-words fluently and correctly to describe what they detected through the use of those organs.)

It might be argued at this point that we have not yet disposed of the idea that the senses can be distinguished by an amalgam of suggestions (I), (III), and (IV); for it is not clear that in the example of the Martians the condition imposed by suggestion (I) is fulfilled. The thesis, it might be said, is only upset if x-ing and y-ing are accepted as being the exercise of different senses; and if they are, then the Martians’ color-words could be said to have a concealed ambiguity. Much as “sweet” in English may mean “sweet-smelling” or “sweet-tasting,” so “blue” in Martian may mean “blue-x-ing” or “blue-y-ing.” But if this is so, then the Martians after all do not detect by x-ing just those properties of things which they detect by y-ing.

To this line of argument there are two replies:

(1) The defender of the thesis is in no position to use this argument; for he cannot start by making the question whether x-ing and y-ing are exercises of the same sense turn on the question (inter alia) whether or not a single group of characteristics is detected by both, and then make the question of individuation of the group turn on the question whether putative members of the group are detected by one, or by more than one, sense. He would be saying in effect, “Whether, in x-ing and y-ing, different senses are exercised depends (inter alia) on whether the same properties are detected by x-ing as by y-ing; but whether a certain x-ed property is the same as a certain y-ed property depends on whether x-ing and y-ing are or are not the exercise of a single sense.” This reply seems fatal. For the circularity could only be avoided by making the question whether “blue” in Martian names a single property depend either on whether the kinds of experience involved in x-ing and y-ing are different, which would be to reintroduce suggestion (II), or on whether the mechanisms involved in x-ing and y-ing are different (in this case whether the upper organs are importantly unlike the lower organs): and to adopt this alternative would, I think, lead to treating the differentiation of the senses as being solely a matter of their mechanisms, thereby making suggestion (I) otiose.

(2) Independently of its legitimacy or illegitimacy in the present context, we must reject the idea that if it is accepted that in x-ing and y-ing different senses are being exercised, then Martian color-words will be ambiguous. For ex hypothesi there will be a very close correlation between things x-ing blue and their y-ing blue, far closer
than that between things smelling sweet and their tasting sweet. This being so, it is only to be expected that x-ing and y-ing should share the position of arbiters concerning the color of things: that is, “blue” would be the name of a single property, determinable equally by x-ing and y-ing. After all, is this not just like the actual position with regard to shape, which is doubly determinable, by sight and by touch?

While I would not wish to quarrel with the main terms of this second reply, I should like briefly to indicate why I think that this final quite natural comparison with the case of shape will not do. It is quite conceivable that the correlation between x-ing and y-ing, in the case supposed, might be close enough to ensure that Martian color-words designated doubly determinable properties, and yet that this correlation should break down in a limited class of cases: for instance, owing to some differences between the two pairs of organs, objects which transmitted light of a particular wavelength might (in standard conditions) x blue but y black. If this were so, then for these cases the conflict would render decision about the real color of the objects in question impossible. (I ignore the possibility that the real color might be made to depend on the wavelength of the light transmitted, which would involve depriving color of its status as a purely sensibly determinable property.)

I am, however, very much inclined to think that a corresponding limited breakdown in the correlation between sight and touch with regard to shape is not conceivable. The nature of the correlation between sight and touch is far too complicated a question to be adequately treated within the compass of this essay; so I shall attempt only to indicate, in relation to two comparatively simple imaginary cases, the special intimacy of this correlation. Both cases involve medium-sized objects, which are those with regard to which we are most willing to accept the equality of the arbitraments of sight and touch. The question at issue in each case is whether we can coherently suppose both (a) that, in a world which in general exhibits the normal correlation between sight and touch, some isolated object should standardly feel round but standardly look square, and also (b) that it should be undecidable, as regards that object, whether preference should be given to the delivery of sight or to that of touch.

Case A. In this case I do not attribute to the divergent object the power of temporarily upsetting the correlation of sight and touch with regard to other normal objects while they are in its vicinity. Suppose that, feeling in my pocket, I were to find an object which felt as if it were round and flat like a penny, I take it out of my pocket and throw it on the table, and am astonished to see what looks like a
square flat object: I find, moreover, that when surveyed by myself (and others) from various points, it continues to look as a square object should look. I now shut my eyes and “frame” the object by running my finger round its edge; my finger feels to me as if it were moving in a circle. I then open my eyes, and, since we are supposing that other objects are not affected by the divergent one, my finger also feels to me as if it were tracing a circular path, but not, of course, as if it were “framing” the visible outline of the object. One possibility is that my finger is seen to cut through the corners of the visible outline of the divergent object; and I think that such a lack of “visual solidity” would be enough to make us say that the object is really round, in spite of its visual appearance. Another possibility is that the visible path of my finger should be a circle within which the visible outline of the object is inscribed, and that, if I try, I fail to establish visible contact between my finger and the object’s outline, except at the corners of that outline. I suggest that if the object’s outline were visually unapproachable in this kind of way, this would very strongly incline us to say that the object was really round; and I suspect that this inclination could be decisively reinforced by the application of further tests of a kind to be mentioned in connection with the second case.

Case B. In this case I do attribute to the object the power of “infecting” at least some other objects, in particular my finger or (more strictly) the path traced by my finger. Suppose that, as before, when I trace the felt outline of the divergent object, it feels to me as if my finger were describing a circle, and also that, as before, the object looks square; now, however, the visible path of my moving finger is not circular but square, framing the visible outline of the object. Suppose also that I find a further object which is indisputably round, the size of which feels equal to the size which the divergent object is felt as having, and which (we will suppose) is not infected by proximity to the divergent object; if I place this unproblematic object behind the divergent one, as I move my finger around the pair of objects, it feels as if I am continuously in contact with the edges of both objects, but it looks as if I am in continuous contact with the divergent object, but in only occasional contact with the normal object. (I am taking the case in which the corners of the visible outline of the divergent object overlap the visible outline of the normal object.) Given this information alone, I think that it cannot be decided what the real shape of the divergent object is; but there are various further tests which I can make. One of these would be to put the two objects on the table, the divergent object being on top, to place my finger and thumb so that they are in felt contact with both objects but are visually in contact only with opposed corners of the visible outline of the
divergent object, and then raise my hand; if thereby I lift both objects, the divergent object is really round; if I lift only the divergent object, it is really square.

A test closely related to the foregoing would be to discover through what sorts of aperture the divergent object could be made to pass, on the general principle that it is square pegs which fit into square holes and round pegs which fit into round holes. For example, suppose I find an aperture the real shape and size of which is such that, according to tactual comparison, it ought to accommodate the divergent object, while according to visual comparison it ought not to do so; then (roughly speaking) if the object can be made to pass through the aperture it is really round; if it cannot, it is really square. It seems to me that the decisiveness of this test can be averted only if we make one of two suppositions. We might suppose our fantasy-world to be such that apertures of a suitable real shape are not available to us; for this supposition, however, to be of interest, it would have to amount to the supposition of a general breakdown of the correlation of sight and touch as regards shape, which is contrary to the terms of our discussion, which is concerned only with the possibility of a limited breakdown in this respect. Alternatively, we might suppose that when we attempt to make the divergent object pass through a suitably chosen aperture which is really round, it feels as if the object passes through, but it looks as if the object fails to pass through. On this supposition there is some prospect that the real shape of the divergent object should remain undecidable. But we must consider the consequences of this supposition. What, for example, happens to my finger when it is pushing the divergent object tactually, though not visually, through the aperture? In order to keep the question of the real shape undecidable, I think we shall have to suppose that the finger tactually moves into the aperture, but visually remains outside. Given this assumption, it seems reasonable to conclude that it will have become a practical possibility, with regard to any object whatsoever, or at least any movable object, to divorce its tactual location from its visual location. Imagine, for example, that the divergent object is just outside one end of a suitably selected cylinder, and is attached to my waist by a string which passes through the cylinder; now I set myself the task of drawing the object through the cylinder by walking away. If I do not tug too hard, I can ensure that tactually my body, together with any objects attached to it, will move away from the cylinder, while visually it will not. And one might add, where shall I be then?

I suggest, then, that given the existence of an object which, for the Martians, standardly x-ed blue but y-ed black (its real color being undecidable), no conclusion could be drawn to the effect that other objects do, or could as a matter of practi-
cal possibility be made to, x one way and y another way either in respect of color or in respect of some other feature within the joint province of x-ing and y-ing; given, on the other hand, the existence of an object which, for us, standardly felt one shape and looked another, then either its real shape would be nonetheless decidable, or it would be practically possible to disrupt in the case of at least some other objects the correlation between sight and touch as regards at least one feature falling within their joint domain, namely spatial location; at least some objects could be made standardly to feel as if they were in one place and standardly to look as if they were in another. Whether such notions as those of a material object, of a person, and of human action could apply, without radical revision, to such a world, and whether such a world could be coherently supposed to be governed by any system of natural laws, however bizarre, are questions which I shall not here pursue.

(6) Compare the Molyneux problem. It has been properly objected against me that, in comparing the possibility of a limited breakdown in the correlation between x-ing and y-ing with the possibility of a corresponding limited breakdown in the correlation between sight and touch, I have cheated. For whereas I consider the possibility that a certain class of objects might x blue but y black, I consider only the possibility that a certain isolated object should standardly feel round but look square: I have failed to consider the possibility that, for example, objects of a particular felt size which feel round should look square and that there should therefore be no normal holes to use for testing divergent objects.

I can here do no more than indicate the lines on which this objection should be met. (1) The supposed limited breakdown cannot be restricted to objects of particular shapes, since the dimensions of objects and of holes can be measured both tactually and visually by measuring rods: and what happens when a divergent measuring rod is bent double? (2) Any shape-divergent object would be tolerated tactually but not visually (or vice versa) by normal holes (if available) of more than one specifically different size. Consequently, since we are ruling out a general breakdown of the correlation between sight and touch as regards the shapes in question, there must be at least some normal holes which will tolerate tactually but not visually (or visually but not tactually) at least some divergent objects: and this is enough for my purpose.

To return to the main topic, I hope that I have put up a fair case for supposing that suggestion (II) cannot be eliminated. How then, are we to deal with the difficulties which seemed to lead us back from suggestion (II) to suggestion (I), with a
consequent impasse? The first of these was that such an alleged special experience as that supposedly involved in seeing eluded inspection and description. I think that this objection conceals an illegitimate demand. We are being asked to examine and describe the experience we have when we see, quite without reference to the properties we detect or think we detect when we see. But this is impossible, for the description of the experiences we have when we see involves the mention of properties we detect or seem to detect. More fully, the way to describe our visual experiences is in terms of how things look to us, and such a description obviously involves the employment of property-words. But in addition to the specific differences between visual experiences, signalized by the various property-words employed, there is a generic resemblance signalized by the use of the word “look,” which differentiates visual from nonvisual sense-experience. This resemblance can be noticed and labeled, but perhaps not further described. To object that one cannot focus one’s attention, in a given case, on the experience of seeing, as distinct from the properties detected, is perhaps like complaining that one cannot focus one’s attention on the color of an object, ignoring its particular color. So the initial assumption of the independence of suggestions (I) and (II) has broken down: how extensive the breakdown is could be determined only by going on to consider how far differences in character between things reduce to differences between the experiences which people have or would have in certain circumstances. This would involve a discussion of traditional theories of perception for which at the moment I have neither time nor heart.

The second difficulty is that of explaining why, if sight is to be distinguished from other senses by the special character of the experiences involved in seeing, there is a logical objection to the idea that we might detect (say) the smells of things by means of experience of the visual type. Why can we not see the smell of a rose? Well, in a sense we can; a rose can (or at any rate conceivably might) look fragrant. But perhaps the objector wants us to explain why a rose cannot look fragrant in the same sense of “look” in which it may look red. The answer here is presumably that had nature provided a closer correlation between the senses of sight and smell than in fact obtains, the word “fragrant” might have been used to denote a doubly determinable property: in which case roses could have been said to look fragrant in just the sense of “look” in which they now look red. But of course the current rules for the word “fragrant” are adapted to the situation actually obtaining. If, however, the objector is asking us to explain why, on our view, given that fragrance
is *merely* an olfactorily determinable property, it is not also at the same time a visu-
ally determinable property, then perhaps we may be excused from replying.

**Notes**

1. I am indebted to Rogers Albritton for a number of extremely helpful criticisms and
   suggestions concerning this essay.
2. This idea was suggested to me by O. P. Wood.