

THE SIGNIFICANCE OF THE SENSES

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Abstract.

Standard accounts of the senses attempt to answer the question how and why we count five senses (the counting question); none of the standard accounts is satisfactory. Any adequate account of the senses must explain the significance of the senses, that is, why distinguishing different senses matters. I provide such an explanation, and then use it as the basis for providing an account of the senses and answering the counting question.

It is surprising, given the obviousness of the fact that we have five senses, that there should be so little agreement as to what account should be given of them. It's not just that there is disagreement over details; the disagreement concerns the fundamental nature of the senses. With a few notable exceptions,¹ discussions of the senses have attempted to answer what might be called the counting question: that is, why do we count five senses? In order to answer that question, some account must be given of the difference in virtue of which different particular perceptions (by perceptions I mean events of perceiving something) count as of different senses, and of what different particular perceptions have in common in virtue of which they are perceptions of a single sense. By explaining in virtue of what perceptions are perceptions of a particular sense, an adequate

¹ See, for example, Martin (1992, 1993); and discussions of Molyneux's question Campbell (1996), Eilan (1993).

answer to the counting question can claim to have given an account of the nature of the senses – of what constitutes each of the different senses.

There is agreement in general about what properties of perceptions might be relevant to answering the counting question, and I don't think it is an over-simplification to say that attempts to answer this question, and hence accounts of the nature of the senses, can be divided into three broad categories: the three standard accounts of the nature of the senses.

Firstly, there are accounts which claim that perceptions count as of different senses in virtue of the causal aetiology of their production. Thus, the senses might be claimed to be distinct in virtue of the role of the sense organs, or of psychological processes, or of different physical stimuli² in the production of perceptions.

Secondly, there are accounts which claim that perceptions count as of different senses in virtue of what objects or properties they are perceptions of. The perception, for example, of colour might be claimed to constitute seeing, the perception of a sound, hearing, and so on.³

² I've put physical stimuli here on the assumption that physical stimuli contribute only to how an experience is caused and not to *what* is experienced; if the nature of the stimulus is taken to make a difference to what is experienced, then the physical stimuli account should be considered to belong to the second kind of account.

³ Aristotle is popularly thought to have held this view; but see Stephen Everson, *Aristotle on Perception*. Oxford: Clarendon Press: Oxford University Press, 1997, ch. 3. For more recent

Thirdly, there are accounts which claim that perceptions count as of different senses in virtue of properties of the experiences involved. One perceives something with a particular sense in virtue of one's experience of that thing having a certain kind of experiential property.⁴

Dispute about the nature of the senses is (for the most part) about which of the three kinds of account is correct. Although each account might be thought to be partially correct – in that it captures something characteristic of the difference between senses – none of the accounts has been generally accepted.

Proponents of each kind of view have what seem to me decisive objections against the alternative views. Given that there are only ever these few alternatives canvassed, writers tend to adopt the view they consider to have the fewest or least serious shortcomings. In what follows I will begin by briefly describing the standard accounts, and the more or less standard objections to them; having done that, I will argue that the counting question can only be answered after we have answered a different question about the significance of the distinction between the senses.⁵

advocates, see Roxbee-Cox (1970); Sanford (1976); for a version couched in terms of the intentional theory of perception, see Dretske (1995, pp. 94ff.).

⁴ See Grice (1967); Smith (1991); Peacocke (1982, ch. 2) endorses a similar view.

⁵ There may be some views that don't fit neatly into my scheme of classification; I think that some version of the general objections that I raise will apply to them too. The problem, as I shall attempt to show, cannot be solved by refining or combining the standard views.

Causal aetiology – the sense organs view.

‘A familiar type of answer [to the question by what criteria the senses are to be distinguished from one another] is that certain physiological processes, involving certain parts of the body with which we are familiar, make an instance of perception a case of sight; the functioning of other processes, involving other familiar parts of the body, make it a case of hearing, etc. This may be called the ‘Sense Organ’ view.’⁶

Many people, if asked what the difference between seeing and hearing something amounts to, will answer by pointing out the role of our eyes in seeing, and our ears in hearing and so on.⁷ It’s natural to suggest, therefore, that in distinguishing different senses we are making a distinction between the different sense organs involved in perception.

Insofar as there is a correlation between different senses and different sense organs, and insofar as we don’t, as a matter of fact, make a distinction between two senses unless there are two different sense organs involved in perceiving with each, this suggestion seems right; it is the most natural way of developing the causal aetiology

⁶ J. W. Roxbee-Cox, "Distinguishing the Senses." *Mind* 79, (1970): 530-550, p.530.

⁷ Try asking. It’s not insignificant that people generally answer in this way.

view. Philosophically speaking, however, it is unpopular; indeed it is taken by many to be simply untenable.

An account of the senses needs to explain more than what distinguishes different senses; it must explain what all the perceptions of a single sense have in common in virtue of which they count as perceptions of that sense.

Pointing out merely that various distinguishable parts of the body are involved in producing those perceptions is not sufficient to explain that, for there are lots of distinguishable parts of the body – there are hands, and feet, and legs, and torsos, and so on – which are (or, at least, can be) involved in perceiving which we don't take to produce perceptions of distinct senses. We need, therefore, some further explanation of why we group various parts of the body into five different kinds of sense organ. The worry is then that the only way to explain this grouping is either by appealing to the fact that they produce perceptions of different senses, making the explanation circular, or by appealing to one of the other accounts of the distinction, making the explanation otiose.⁸

In response to this, it might be suggested that the sense organs are not simply distinguishable parts of the body; they are, rather, the physiological mechanisms whose functioning is necessary for parts of the body to function in perception. They are, as one

⁸ Roxbee-Cox is not unique in concluding “there is some element common to the members of the groups of parts of the body that we call organs of sight, feeling, etc., ... To find such a feature, we shall...have to fall back on such considerations as the character of the experience or the properties perceived, that are associated with the functioning of the various organs” (J. W. Roxbee-Cox, "Distinguishing the Senses." *Mind* 79, (1970): 530-550, p.533).

textbook says, “the bodily mechanisms for getting up-to-date information” about one’s own body and the surrounding environment.⁹ In explaining how we count different sense organs, and hence different senses, we can appeal to the role of these bodily mechanisms.

This suggestion won’t work; we can see why by considering the example of touch. One might think of the sense organ of touch as the skin. Certainly we talk of feeling or touching many properties or features of things that we detect by means of contact with the skin. The skin, however, does not contain a single sensory mechanism, but several: “[t]here are at least 15 functionally and morphologically distinct kinds,” including those which detect temperature and various mechanically sensitive receptors.¹⁰ We regard things that we perceive as a result of the operation of any or several of these distinct mechanisms as things that we perceive by touch, so we cannot simply identify the sense of touch with the operation of a certain kind of bodily mechanism. A similar argument can be made with respect to the other senses.

At this point we can either say that the distinction, as we actually make it, between five senses is mistaken and embrace a kind of eliminativism or revisionism about the senses (we might say that there are no senses as common-sense understands them, or that there are many more than common-sense recognises); or we can reject the

⁹ H. B. Barlow, and J. D. Mollon. *The Senses, Cambridge Texts in the Physiological Sciences*; 3. Cambridge: Cambridge University Press, 1982, p.1, and p.10.

¹⁰ A. Iggo, "Cutaneous Sensory Mechanisms." In *The Senses*, edited by H. B. Barlow and J. D. Mollon; this paper contains a good general survey of the physiology of cutaneous sensory mechanisms.

claim that the senses are sense organs. The eliminativist or revisionist view is only plausible if it can be shown that common-sense embodies the kind of proto-scientific understanding of the senses which is *liable* to revision or replacement. I've not come across a good argument that it does.¹¹

Appealing to the role of the sense organs is just one way to mark differences in the aetiology of perceptions; of course there are others. One might accept that perceptions cannot be distinguished by appealing to *physiological* mechanisms, but still think that there must be some kind of processes involved in producing perceptions, distinctions amongst which correspond to the distinctions we make amongst perceptions: we just need to identify the relevant kind of processes. Kinds of psychological processes might be thought to be especially relevant, or kinds of physiological process individuated in some more subtle way.

In fact, there are no good reasons for thinking that there are such processes,¹² but even if they existed, it is arguable that they would be irrelevant to distinguishing the

¹¹ There have been authors who attempt to give a 'scientific' account of the senses; but they do nothing to show that they haven't simply changed the subject. Whatever they are giving an account of, it's not the senses as we commonly understand them. C.f. B. L. Keeley, "Making Sense of the Senses." *Journal of Philosophy* XCIX, Jan (2002): 1-24.

¹² Psychological processes, for example, don't divide neatly into processes corresponding to different senses. I don't have space to go into details. The reason, briefly, is that lower-level perceptual processes are massively modular, with many distinct feature specific processes involved in producing, say, visual perceptions. Higher-level perceptual processes are task

senses. They would be irrelevant because there is no process the operation of which is necessary for one's perception of something to be of a particular sense; as E.J. Lowe comments,

‘... it is not inconceivable that a congenitally blind person (one whose eyes or optic nerves were damaged beyond repair) should be capable of enjoying [visual] experiences and have sight conferred artificially by being fitted with a prosthetic device...[W]hat qualifies an experience as visual has nothing to do with its causal provenance...[q]ualitative character is what counts.’¹³

As long as a prosthetic device performed the same function as that performed by the eye and associated mechanisms – as long as it produced visual experiences of objects – then a

dependent, with distinct processes involved in, say, visually guided action and visual recognition.

Both higher and lower-level processes can have cross-modal inputs; that is, they have a functionally significant role in producing perceptions of more than one sense. Given this psychological structure, there seems little prospect of identifying five kinds of psychological process corresponding to the five senses. Much of this evidence with respect to vision is summarised in David A. Milner, and Melvyn A. Goodale. *The Visual Brain in Action*. Oxford: Oxford University Press, 1995. See also Massaro (1998) and Bregman (1990).

¹³ E.J. Lowe, "Experience and its objects." In *The Contents of Experience*, edited by T. Crane. Cambridge: Cambridge University Press, 1992, p.80.

prosthetic device would confer sight. A similar line of reasoning applies with respect to any other kind of prosthetic sensory mechanism and any other sense.

The details of this argument – in particular, what grounds the claim about conceivability, and what follows from that – are rarely made explicit. Presumably the idea is that all one has to do to imagine having a visual experience is to imagine having an experience which is subjectively just like the experience one has when actually seeing something. If imagining having an experience subjectively just like the experience one actually has when seeing something is sufficient for one to imagine having a visual experience, then having an experience subjectively just like a visual experience is sufficient for that experience to be a visual experience. And if being subjectively alike is sufficient, then nothing else is necessary. Thus an experience counts as a visual experience irrespective of how it was produced – irrespective of its causal aetiology. There is a great deal that could be said about this argument,¹⁴ and there are a number of points at which it could be resisted. Nevertheless, I think it, or something like it, lies behind the widely accepted conclusion that the distinction between the senses must be in some way experiential, a matter of how experiences seem subjectively and nothing to do with the sense organs or the causal aetiology of experience.

¹⁴ Saul Kripke, *Naming and Necessity*. Oxford: Blackwells, 1980, pp.151-155, presents what I think is a version of this argument. See C. Peacocke, "Imagination, Experience and Possibility." In *Essays on Berkeley*, edited by J. Forster and H. Robinson. Oxford: Clarendon Press, 1985, sec. IV, for a discussion critical of the general approach.

The objects view. The view according to which perceptions count as of different senses in virtue of the kind of objects they are perceptions of counts as experiential because how perceptual experiences seem is (at least partly) determined by what they are experiences of. As an account of the senses,¹⁵ the view does not fare well; one problem concerns the diversity of objects perceivable with each sense, as Sorabji remarks:

‘there is such a large variety of objects that can be perceived by sight...it would be laborious to define sight by reference to its objects. Moreover it would conceal what unity there is to the concept, and make it a mystery that the single name “sight” should be used to cover such a heterogeneous list.’¹⁶

A more serious problem is that the same kind of object can be perceived with more than one sense; that means we cannot explain why perceptions count as of different senses simply by appealing to the kind of objects perceived.¹⁷

¹⁵ An account sometimes attributed to Aristotle. But see R. Sorabji, "Aristotle on Demarcating the Five Senses." *Philosophical Review* 80 (1971): 55-79, and Stephen Everson, *Aristotle on Perception*. Oxford: Clarendon Press: Oxford University Press, 1997, Ch. 3.

¹⁶ (1971, p.60; see also pp.68-9)

¹⁷ Unless, that is, one adopts a sense-datum view of experience. According to some versions of the sense-datum theory, the objects constitutive of one's, say, visual awareness are of a kind unique to that sense. Many would take the adoption of any sense-datum view of experience too high a price to pay for an answer to the counting question, and I won't discuss the possibility

Rather than appealing to the objects perceived, it might be thought more plausible that perceptions count as of different senses in virtue of the kind of properties perceived. There are two ways of developing this suggestion. The first is that perceptions count as of different senses in virtue of the kind of properties the objects perceived are perceived as having. The second is that objects are perceived in virtue of, or by, perceiving certain 'key' properties, and perceptions count as of different senses in virtue of the kind of 'key' property involved. This second view is far less common.

According to the first view, perceiving an object as having a certain colour, shape, size, and so on, constitutes seeing that object; perceiving an object as having a certain degree of loudness, determinate of pitch, and so on, constitutes hearing that object; and so on for the other senses. There are some properties that objects can be perceived to have with more than one sense. One can both see and feel the shape of something, for example. In order to explain what makes the perception of the shape of an object an instance of seeing that shape, the account must appeal to the conjunction of properties one experiences an object as having.¹⁸ One's perception of the shape of an object is an instance of seeing the shape if one perceives the object's shape in conjunction with other uniquely visual properties of the object.

further. For a discussion of whether sense-data should be thought to be cross-modal, see H. Robinson, *Perception*. London: Routledge, 1994, pp.207 ff.

¹⁸ C.f. H.P. Grice, "Some Remarks About the Senses." In *Studies in the Way of Words*, edited by Paul Grice. Cambridge, Mass.: Harvard, 1967, pp.267 ff.

This account of the distinction is attractive to those who hold a representational view of experience, according to which the phenomenology of an experience can be exhaustively characterised in terms of the representational content of the experience – in terms of how it represents the world to be.¹⁹ If one combines the representational view with the view that the senses must be distinguished experientially, then one ends up with the kind of account of the senses recently endorsed by Dretske: the representationalist can explain the difference between visual and tactual experience because there is, Dretske says,

‘more – much more – involved in seeing an object move than experiencing the object’s movement. One also experiences the object’s shape, size, color, direction of movement, and a host of other properties . This is why seeing and feeling movement are much different even though the same thing (movement) is represented in both modalities. Even when the senses overlap in their representational efforts – as they do in the case of spatial properties – they represent different ranges of determinable properties’.²⁰

¹⁹ A view which is approaching the status of orthodoxy in the philosophy of perception.

²⁰ Fred I. Dretske, *Naturalizing the Mind, The Jean Nicod Lectures*; 1994. Cambridge, Mass.: MIT Press, 1995, p.95. McGinn similarly suggests that ‘[although] different sense-modalities may present the same kinds of environmental feature, e.g. shape or texture – as with sight and touch – ... the subjectively distinct experiences that present these features also present other features...[the] differences in the range of contents available to different types of experience seem

According to Dretske we can explain what makes one's perception of an object's shape a visual perception by appealing to the range, or conjunction, of properties one perceives in perceiving that object.²¹ The difficulty with this is that appealing to the conjunction of properties perceived will allow us to distinguish different senses only for as long as the operation of each sense considered in isolation from the others.

When we see the shape of something our perception of the shape will be a perception of it as having a conjunction of features constitutive of visual experience. But suppose that, as we often do, we simultaneously feel and see an object. Then we would perceive the object's shape in conjunction with kinds of properties constitutive of both visual and tactual perception: we would perceive the object as having shape, and colour, but also as having weight, texture, and so on. In that case, we can no longer explain what makes the perception of the object's shape visual by appealing to the fact that we are aware of its shape in conjunction with properties uniquely associated with vision; we are aware of the shape in conjunction with properties associated with both vision and touch. Grice makes the point succinctly:

enough to capture the obvious phenomenological differences in the experiences associated with different senses.' I don't know what he means here by 'subjectively distinct experiences,' Colin McGinn, "Content and Consciousness." In *The Problem of Consciousness*. Oxford: Blackwells, 1988, p. 35.

²¹ This is in fact the version of the features account that Grice discusses (*ibid*, p.251). See also Roxbee-Cox (*ibid*).

‘Suppose,’ he says, ‘a man 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 simply list the properties perceived by the subject we face a problem: ‘there is nothing in this statement of the facts to tell whether the coins *look* different in size but *feel* the same size, or alternatively *feel* different in size but *look* the same size’.²²

The only possible response to this objection is to insist that when one both feels and sees a coin one has *two* experiences simultaneously – a tactual experience and a visual experience – and that each experience will be different in that each will represent the coin to have a different range of properties in addition to its shape. But what grounds could there be for such a claim? Prior to having distinguished visual and tactual experience one could have no reason for claiming that one has two distinct experiences of the coin – a tactual experience representing tactually perceived properties, and a visual one

²² *Ibid.*, p.253. Note that appealing to a mismatch between vision and touch is inessential: the same argument could be made if one felt but did not see the shape of the coin. Then we could ask, in virtue of what is the perception of the shape an instance of feeling the shape?

representing visually perceived properties – rather than a single experience which represents both tactually and visually perceived properties.²³

The second, and less popular, way of developing the properties account of the senses is to claim that there are objects or properties associated with each sense which play a special role in the perception of anything else with that sense; and that perceptions can be distinguished by reference to these special objects or properties. One version of it is developed by Roxbee-Cox; not all the properties we perceive, he says, ‘are of equal standing,’ instead:

‘When we perceive something to have a property that [is perceivable with more than one sense] the property will be one the perception of which on any particular occasion requires the...perception of one or other of the special properties I am calling Key Features.’²⁴

The suggestion, then, is that the perception of, say, the shape of something requires the perception of its colour, and in virtue of that the perception is an instance of seeing. Whether the perception of the shape of something *does* require the perception of its colour is an empirical matter. There is little reason to think that it does, nor that in general

²³ All they can appeal to in providing such an explanation is our awareness of the coin and its properties nothing about that awareness provides any basis for the claim that two distinct experiences are involved in our perception of it.

²⁴ *Ibid.*, p.537.

there are properties that play this special role in perception. That gives us a good reason to reject the account.²⁵

The experiences view. It is the inadequacy of the accounts that I have so far considered that leads Grice to conclude that the senses are to be distinguished by appeal to the special introspectible character of our experience; which “resists both inspection and description” (p.259). When we describe our visual experiences, we do so

‘in terms of the way things look to us, and such a description obviously involves the use of property-words. But in addition to the specific differences between visual experiences, signalled by the various property words employed, there is a generic resemblance signalled by the use of the word “look,” which differentiates visual from non-visual sense experience. This difference can be noticed and labelled, but perhaps not further described’.²⁶

²⁵ There’s evidence that the psychological processes involved in the perception of shape and colour are dissociable, hence that it’s possible to perceive the shape of something without perceiving its colour.

²⁶ *Ibid.*, p.267. C.f. Peacocke: ‘the sensational properties of visual and tactual perception are *toto caelo* distinct;...It does not follow that the representational contents of visual and tactual experiences do not overlap. ...the distinctness of visual and tactual experience is captured at the sensational level,’ C. Peacocke, *Sense and Content*. Oxford: Clarendon Press, 1982, pp. 27-8.

We can distinguish the senses by appealing to the properties of experiences which determine what Grice calls their special introspectible character.²⁷

One thing in favour of this suggestion is that, unlike the other views that I have considered, it does seem able to provide an answer to the counting question. Trivially so, one might think: the relevant properties can be introduced functionally, just as those properties of experience that explain what distinguishes perceptions of different senses.

Of course, introducing properties in this way doesn't guarantee that there actually are any such properties. What reason, other than that they would explain the distinction between senses, do we have for thinking that they exist? That is, what reason do we have for thinking that experiences have properties which partly determine their subjective character, and that there are five properties each corresponding to one of the five senses?

Grice suggests that there is a generic resemblance amongst the experiences associated with the perceptions of a particular sense. If there is such a resemblance, and

²⁷ A similar view has recently been endorsed by A.D. Smith: "Necessarily, when we consciously perceive a physical object, that object impinges on us in such a way as to be registered in a sensory state. Such states possess, and are differentiated by, intrinsic experiential features... To perceive a sound as a sound is to be sensorily affected in a peculiar and indefinable way that differs from our sensory state involving, say, the perception of a color. Such sensory characteristics of experience go to define a sense modality." A. D. Smith, "Of Primary and Secondary Qualities." *Philosophical Review* 99, (1990): 221-251, p.239.

that resemblance cannot be explained in any other way, then that would give us a reason for thinking that the properties exist.

Both conjuncts of the antecedent are disputable. Firstly, it's not clear that there is a generic resemblance of the kind Grice describes. That is, it's not clear that any experience involved in the visual perception of an object is such that it resembles other such experiences more than it resembles any experience involved in, say, the tactual perception of an object; and so on. Even if there is this generic resemblance, it's certainly not clear that we have to introduce properties of experience in order to explain it. We have seen that representationalists about experience think that whatever resemblances there are amongst the experiences of a single sense can be explained in terms of the representational content of the experience; in terms, that is, of what is perceived. I have argued that appealing to what is perceived is not sufficient to explain the distinction between the senses, it may nonetheless be sufficient to explain this resemblance.²⁸

The account, then, does not seem well motivated. We should be suspicious of properties introduced for no other reason than to explain the distinction between senses:

²⁸ The ongoing dispute about the existence of qualia suggests that the need for properties of experience cannot be established by appeal to introspection alone. A nice example of the dispute as it applies to the senses can be found in the exchange between Lopes and Dretske (D. Lopes, "What is it like to see with your ears?" *Philosophy and Phenomenological Research* 60, (2000): 439-53; Fred I. Dretske, "Reply to Lopes." *Philosophy and Phenomenological Research* 60, (2000): 455-59).

although, if they existed, they would explain the distinction, we have no good independent reason to think they do exist. Furthermore, there are many who would reject the account simply because of its commitment to properties of experiences that determine the introspectable character of those experiences. Such properties are thought to be, in various ways, problematic.²⁹

A question of significance. It seems, then, that none of the standard accounts that I have described can provide a wholly satisfactory account of the nature of the senses. My discussion of each has been brief, and it may that, with some modification or combination of them, we could come up with a more satisfactory account. I am not going to explore that possibility, because even if we were able to produce a more satisfactory account, an account that explains how we count the senses, such an account would still not, I am going to suggest, provide an adequate explanation of the distinction we make between the senses.

Our concepts of the five senses are everyday folk psychological concepts, as central as any to our understanding of ourselves and others. For most, if not all, folk psychological states, being in a state of one kind, rather than another, matters; it has some explanatory significance, often because being in that kind of state has consequences for one's judgement and action.

²⁹ Many seem to view such properties as being, like sense data, an affront to philosophical good sense.

In giving an account of these folk psychological states, in saying what makes them different from one another, we aim to spell out these consequences; in giving an account of what is characteristic of different kinds of psychological states we must give an account of their explanatory significance. It is plausible to think that concepts of these different states are part of our folk psychological repertoire of concepts because of the explanatory significance being in one rather than another such state has.

What, then, is the explanatory significance of the distinction between the senses? It is, I suggest, a condition on any adequate account of the nature of senses that it should be able to explain the explanatory significance of the distinction. An account which was extensionally adequate – which explained how we count the senses – but which couldn't or didn't explain the point of our counting them, would be inadequate. It would be inadequate because it would be unable to explain the point of the distinction; unable to explain why seeing rather than touching something matters.

This suggests an alternative way of approaching the question of the nature of the senses; rather than beginning with the counting question, we should begin with the question of the significance of the distinction.

None of the standard accounts provide a plausible answer. They aim to describe some difference that corresponds to the distinction we make, and so is sufficient to answer the counting question, doesn't explain why we make it.

Suppose, for example, that I perceive something – a vase on the table, say. On each of the views that I have discussed of what distinguishes the senses, what could it matter that I am perceiving it with one rather than another sense?

According to the experiential view, the difference will be in what properties my experience of the vase has. That my experience has these properties explains why it is appropriate to label my experience as a visual experience, but whatever consequences my seeing the vase has for my judgements and action, those consequences all flow from the fact that I have perceive the vase being some way. My not perceiving the vase at all, or perceiving it as being some other way, would have different consequences, but simply as a result of *what* I perceive. Therefore, the account seems unable to explain why it should matter that I am, say, seeing rather than touching the vase.

A similar line of reasoning applies to the objects or properties account, according to which the difference between seeing and touching the vase will be a difference in what properties of the vase I perceive. But again, whatever consequences my seeing the vase has for my judgements and action, those consequences simply flow from the fact that I perceive the vase as being some way. That my experience of the vase is, in virtue of the how I experience the vase to be, a *visual* experience, doesn't have any further consequences; it doesn't explain anything not already explained by the fact of my simply perceiving it. Again, then, the account is unable to explain why it should matter that I am seeing rather than touching the vase.

On both these accounts of the distinction, we could abandon talk of the senses without loss. Given their account of what it is to see or feel something, knowing that something was seen or felt doesn't add anything to knowing merely that it was perceived. The same doesn't seem to be true of the sense organs view. The fact that part of my body

is involved in my perception is potentially explanatory of something. But what does it explain, and why should we care about that?

The senses as ways of perceiving. Suppose that we are told not simply that Alice perceived the vase, but that she saw it. What do we come to know about Alice in virtue of being told that she saw it? Or suppose that we are told that she touched the vase rather than saw it. What do we come to know about her as a consequence of that?

It is more informative to be told that Alice sees the vase, rather than to be told merely that she perceives it, since her seeing it makes it probable that she perceives that the vase is a certain way. That is, her seeing the vase makes it more probable that she perceives certain other properties of vase, properties such as its shape, colour, location, and so on. Being told merely that she perceives it doesn't tell us anything about how she is likely to have perceived the vase to be; it doesn't tell us that it is more probable that she perceived that the vase is any of the different ways that it could be perceived to be. More generally:

If Alice sees a vase then there is a range of features, F, such that she is likely to come to know that the vase is F.

If Alice touches a vase then there is a range of features, G, such that she is likely to come to know that the vase is G.

The range of features F and G are different. The same is true for the other senses.

How Alice perceives the vase as being will have consequences for her judgements and actions, so knowing that she is likely to have perceived that the vase is a certain way is potentially explanatory of her behaviour in a way that knowing merely that she perceived the vase is not. This gives us an explanation of the significance of the distinction between different senses. Its having this significance explains why we distinguish the senses.

This explanation of the significance of the distinction exploits the fact that we perceive objects in different ways. A way of perceiving is just the conditions that have to be satisfied for us to perceive something: the way we perceive an object is just that set of conditions which are such that, had they not been satisfied, we would not have perceived it. The very same things can be perceived in more than one way; that is, in ways that involve the satisfaction of different conditions. That there are different ways of perceiving things is partly a consequence of the fact that we have different sensory mechanisms; we can think of the operation of these different mechanisms as constituting different ways of perceiving something, though they are not the only ways of perceiving something.³⁰

³⁰ There are as many different ways of perceiving as there are ways of individuating the conditions necessary for perceiving something. I say something more about which ways are relevant to the distinction between the senses below.

On any occasion that we perceive an object, the conditions whose satisfaction is necessary for our perceiving that object are sufficient for our perceiving it as having a range of properties. What range of properties we perceive the object as having depends in part on which way we perceive the object. To take an obvious example, different sensory mechanisms are sensitive to different kinds of properties; therefore which range of features we perceive an object as having will vary according to the sensory mechanisms that are involved in our perceiving it.

Given, therefore, that one perceives some particular object, how one perceives that object to be and what one can perceive about it will depend in part upon the particular way that one perceives it. In distinguishing different senses we are distinguishing different ways of perceiving: the senses just are different ways of perceiving things.

Note that the account that I am proposing makes object perception primary to our understanding of the senses. In distinguishing different senses, we are distinguishing different ways of perceiving particular objects. Were we not able to perceive objects in different ways, and were these different ways not differentially correlated with the way we perceive objects as being, we could have no use for concepts of different senses. It is only because the same objects can be perceived in different ways that it can be informative to know, of a particular perception of an object, which way it was perceived.

Note too that this explanation of the significance of the distinction between senses is essentially third-personal. It's informative for us to be told that Alice sees the vase, but what about for Alice herself? What's informative for us is clearly not informative for

Alice, since she already knows how she perceives the vase as being, or at least she can come to know simply by attending to the vase. So what difference does it make for her that her perception of the vase is an instance of seeing it?

Perhaps coming to know how one's perceptual experience came about can, in certain circumstances, be useful. Or perhaps coming to know which way one perceives something is useful, not because it tells one about one's actual perception or about one's actual experience but because one comes to know something about what further experiences one could have in certain circumstances. In particular, one might come to know what one would have to do in order to find something out. For example, if one sees something, then to discover what it feels like one would have to do something different to what one would have to do in order to discover what shape it has. Thus one might use facts about which way one perceived something to guide one's further perceptual exploration.

Maybe we could explain the first-personal point of the distinction along these lines.³¹ It's not clear, however, that such an explanation is needed, because it's not clear that the distinction has any first-personal significance: I don't think it matters to Alice which way she perceives the vase. A third-personal explanation of the significance of the distinction is sufficient to explain why in general we make the distinction; we do not need, therefore, a first-personal explanation.

³¹ I'm not sure such an explanation would ever be satisfactory, since – with very few exceptions – it's not clear that explicit knowledge of the causal conditions for perceiving something is involved in perceptual exploration.

The counting question. I have suggested that the senses are different ways of perceiving things, and that that explains their significance, but how does that help us answer the counting question? There are many conditions necessary for perceiving something. These conditions are of different kinds: there are various physical conditions – such as the presence of light for seeing; there are various psychological conditions having to do with the proper functioning of various sensory processes; there are relational conditions – looking in the right direction, touching something, and so on. Given the way that I characterised a way of perceiving – as a set of conditions necessary for the perception of something – there are as many different particular ways of perceiving as there are ways of individuating these necessary conditions. Simply saying that the senses are ways of perceiving doesn't tell us what they are because it doesn't tell us which of these many ways of perceiving they are. It doesn't tell us which ways of perceiving are relevant to the distinction we actually make between different senses. So what exactly determines which ways of perceiving correspond to each of the senses, and why do we classify ways of perceiving into five different senses?

The three standard accounts that I discussed in the first half of this paper all attempt to answer the counting question by locating some appropriate distinction in nature corresponding to that we make between the senses.³² It might be thought that we need to locate a natural distinction if we are both to explain the widespread – perhaps

³² By a distinction in nature I mean at least a distinction which exists independently of our practice of marking it.

universal³³ – nature of the distinction between *five* senses, and establish that our judgements involving concepts of different senses are genuinely truth-apt. It emerged from that discussion that it is difficult to find any natural distinction which plausibly corresponds to the distinction as we actually make it. In particular, it emerged that there is no natural distinction between kinds of sensory mechanism.

We can answer the counting question, however, without appealing to any natural distinction. It is a familiar point about the nature of conventions that if doing something the same way as others has utility for each member of a group of people then we can explain why all members of that group do something the same way as being a matter of convention.³⁴ This is so even if their doing something the particular way they do is arbitrary. Given my account of the significance of the senses, making a distinction between senses will have far greater utility if we all make roughly the same distinction. Therefore, if the senses are ways of perceiving we can explain the widespread nature of the distinction we make between *five* senses as being a consequence of the existence of a

³³ There is some evidence that the distinction is not universal, that some communities draw the distinction between senses in a different way to us; see David Howes, *The Varieties of Sensory Experience: a Sourcebook in the Anthropology of the Senses*. Toronto: University of Toronto Press, 1991.

³⁴ See David K. Lewis, *Convention: a Philosophical Study*. Cambridge, Mass: Harvard University Press, 1969; and Tyler Burge, "On Knowledge and Convention." *Philosophical Review* 84, (1975): 249-254.

convention to individuate ways of perceiving in a certain manner, and our judgements involving concepts of the senses as being true in virtue of such a convention.

Thus we can explain both the widespread nature of the distinction, and the truth-aptness of our judgements involving concepts of the senses, without supposing that there is anything natural or non-arbitrary about the distinction. Although we needn't suppose that the distinction is other than arbitrary, it doesn't follow that there are no constraints on how we individuate ways of perceiving. Again, these constraints follow from my account of the significance of the distinction. The fact we distinguish ways of perceiving because it can be informative to know which way someone perceives something will place various pragmatic constraints on how we individuate ways of perceiving.

In the first place there won't be any point in our distinguishing ways of perceiving that are not potentially informative. Thus the conditions we distinguish must be differentially correlated with a significant difference in what is likely to have been perceived. That someone perceives something with their left eye rather than their right eye makes no difference to what they are likely to have perceived; so there would be no point in regarding left and right eye perception as involving different senses. Touching something with hands rather than feet may make a difference, but not a sufficient difference to be worth tracking.

Secondly, there is no point in making a distinction for the purposes of telling what people are likely to perceive if we cannot actually *tell* or *detect* which way they perceive something. Furthermore, such a distinction would only be useful if we can easily tell which way someone perceives something. That means we would not distinguish ways of

perceiving in terms of the satisfaction of various psychological conditions. Similarly, although what someone can perceive about something they touch depends on how they touch it, the difficulty in telling how someone is touching something, together with the relative insignificance of the differences in they are likely to have perceived, would make distinguishing different ways of touching of little practical value. Thus, the conditions whose satisfaction we will take to be relevant to whether two perceptions of an object have been produced in the same way will be obvious and detectable, and strongly correlated with differences in what properties that object is likely to have been perceived as having.

Given these constraints, one would expect a close connection between the different senses and the various parts of the body that are involved in perception,³⁵ but there is no reason to think that the constraints determine a distinction. Exactly how we individuate ways of perceiving is a matter for empirical investigation of how people actually categorise perceptions, of what conditions they take to be relevant to deciding with which sense someone perceives something.

Some consequences. The view of the senses that I am advocating has various attractive consequences; I only have space to very briefly mention two. The account explains why the sense organs are so central to our understanding of the senses, but it does so without

³⁵ This is why I said earlier that it is not insignificant that, when asked what makes a perception a case of seeing or touching, people (unfailingly in my experience) mention the role of the eyes and the hands.

appealing to the sense organs to answer the counting question. Since the sense organs don't do any individuating work, it doesn't matter that we cannot individuate them independently of the senses. What about the objection that having an experience of a certain subjective kind is sufficient for one to be, say, seeing something? More needs to be said about that argument but, according my account, having a certain kind of experience may be sufficient, as things actually are, for a perception to be an instance of seeing; it doesn't follow that it would be sufficient in all circumstances. It is sometimes asked whether, if we acquired a new ability to detect some previously undetectable property – of magnetic fields, for example – we should count the exercise of that ability as the exercise of a new sense. My account of the senses doesn't say anything about such 'new' senses, nor does it say any about what senses we would have in counterfactual situations. Since what senses we distinguish is conventional, and we don't know what conventions would exist in such circumstances, there is simply no answer to these questions. That seems to me to be consistent with – indeed, explanatory of – our lack of strong intuitions about counterfactual cases. The appeal to conventions also explains the vagueness in our judgements about non-paradigm cases: the conventions may simply not provide a determinate answer as to which sense is involved when perceptions are produced in non-paradigmatic ways. Again, that explains the fact that we don't generally know what to say about such cases.

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