

## Is the Everyday Conception of the Senses Static?

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0. Do we perceive the flavour of cherries by tasting them? In my view, we do. Could empirical psychology *discover* that we do not perceive flavour by taste alone? Louise's highly nuanced account of our *everyday conception of the senses* (ECS) suggests that, on a "non-naturalist" account of ECS, it could not. I have learned a lot by thinking about her account of ECS. But in the end, I think she is not using the science in a way that puts appropriate pressure on ECS.

Everyday concepts change over time. The question is: Can scientific findings shift ECS?

1. Let's start with a simpler example in order to highlight a central theme in Louise's paper. It looks as if the sky is blue. That is, it looks as if there is a luminous blue hemisphere high above us. Is this appearance wrong? Could *science* show it to be wrong?

I can imagine somebody like Louise arguing "No" to both questions. "Of course," this interlocutor might say, "there is no solid hemisphere up there, nothing that we would bump against however high we flew. But it is not clear that *this* is how the sky looks. It looks as if it is a hemisphere, but it doesn't particularly look as if it is solid. Science shows that the sky is not solid, but since it doesn't *look* solid, it's unclear how science is relevant."

I don't know whether Louise thinks like this, but I want to concede the phantom interlocutor's point. Everyday appearances should be granted at face value, provided that they are freighted with only minimal factual content. By contrast, Paul Churchland (1979) argued that appearance changes with belief, but his position is different from our interlocutor's because he thought that appearance had thick factual content. (Question: Did the sky *always* look non-solid, in a factually

minimal sense of 'look'? How did Homer see it? Can appearance change its content?)

2. It looks as if the sky is blue. Should I therefore *believe* that the sky is blue? Please note that this is a different question. After all, I don't believe everything I seem to see. Still, given my answer to the previously posed question, I don't see why I *shouldn't* believe that the sky is blue. The "everyday conception of the sky" doesn't contain anything that would lead science to question whether it exists, or is blue. (Another question: Has the everyday conception of the sky shifted since Homer's time?)

A caveat: Of course, empirical investigation could show me that a particular thing isn't really blue. For instance, it could be that though a particular patch on a painting by Seurat normally looks blue, it isn't really blue. (This might be the conjoint effect of a number of colour patches, none of which is blue.) Nevertheless, even if blueness of the sky could somehow be traced to the interference of some other colour, it would plausibly be right to believe that that it is blue. To take a related example, mountain lakes look blue, but only because they reflect the sky. Nevertheless, it is probably right to believe that they *are* blue. Probably, the "everyday conception of being blue" extends to mountain lakes and to the sky, even though their blue is merely reflected or scattered.

3. The sky looks blue. Paintings and photographs of the sky look blue because artists mimic the way it looks. The sky looks blue because the atmosphere scatters other light more, while paintings look blue because the applied pigment reflects blue light. Suppose scientists were to tell me that the sky does not share any colour property with paintings of the sky; reflectance profiles are physically quite different from scattering profiles. I think I would be on relatively safe ground saying that the scientist is wrong. "The everyday conception of blue" is insensitive to the difference between reflection and scattering.

4. Let's return now to the case of flavour. I pop a cherry into my mouth, chew on it, and savour it before swallowing. I apprehend the flavour of the cherry by

doing what I just did, that is, by tasting it. I honestly do not know how this could sensibly be contested, given the sorts of things I said earlier. If *this* is what Louise wants to maintain, then her thesis is beyond reproach (at least by me).

But this is *not* all that she wants to say. Her thesis is not about perceptual apprehension, but about classificatory judgements. The question is not simply whether we perceive the flavour of a cherry by tasting it, but whether this should count (even partly) as an olfactory perception. This is where she denies that science could have a role: on a non-naturalistic view, she says, science does *not* tell us when ECS should count a perceiving as olfactory and when it should not.

I do not apprehend the flavour of a cherry by smelling or sniffing. Since this is obviously true, science had better not try to contradict it. But it's not clear to me that *this* is what is meant by saying that perceiving the flavour of the cherry is not olfactory.

5. My dog apprehends the flavour of fish by eating, and thus tasting, it. (I don't give her cherries, so we have to change the example.) And perhaps, in some sense, she knows this. Certainly, she knows how to ingest things, and she knows how to avoid things (such as yoghurt) that she does not like. She knows that sniffing is not ingesting, and so she is willing to sniff at but not taste yoghurt. All of this granted, she clearly does not know that her "perceiving should not be counted as olfactory." How *could* she know this? How does the act of apprehending the flavour of fish (or of the cherry) contain the information that it is not olfactory?

I assume, above, that my dog is incapable of making classificatory judgements. That the perception of flavour is not olfactory is not given to my dog in the act of perceiving. She does not have access to this information through the sources available to her, namely perception. I think it follows that perception is not sufficient for *me* to know this. My perception is the same as my dog's; my *judgement* is different. (John McDowell 1994 would disagree with the assumptions I am making here.)

I think Louise agrees with my conclusion. She does not think that the act of apprehending flavour is sufficient by itself to know that this act is non-olfactory. That it is not olfactory is not directly read off the act taken in isolation. Rather, she thinks I have an everyday conception of the senses that identifies my apprehension of the cherry's flavour as non-olfactory. The judgement results from an application of the ECS to the felt character of the act of apprehension. My dog lacks ECS. She has no way of distinguishing the senses.

6. As something of an aside, a comment about the scientific facts. It is not clear that retronasal olfaction should make one say that tasting the cherry is (partly) olfactory. As Louise recounts, vapours from the cherry rise from my mouth into the nasal cavity. There, they pass over the olfactory receptors in a direction opposite to that when I sniff. This is "retronasal olfaction." Importantly, it is a sensory input that does not occur when we sniff or smell. It is generated by substances in the mouth, and gives rise to sensations quite different from those that we enjoy when we sniff or smell. There is even reason to believe that (as Louise mentions in her note 7) retronasal olfaction activates and is processed in a different area of the brain than orthonasal sniffing and smelling. So, science is consistent with the idea that we apprehend flavour by tasting and not by sniffing.

It seems to me that the correct *scientific* position on this issue is to say that while flavour is a unified quality (unlike the smell + the taste of Pont L'Eveque, which are two distinct qualities sensed together and bound to the same object) to which retronasal olfaction contributes. As I have made clear, this does not contradict the idea that we apprehend flavour by tasting; retronasal olfaction is activated by substances in the mouth. As Charles Spence, Barry Smith, and Malika Auvray (forthcoming) write:

If human flavour perception is thought of as cutting across receptor types and defined as what provides basic information about the nutritional qualities of the foods and beverages we eat and drink (Auvray & Spence, 2008) then sweetness should certainly be considered a flavour.

The application to the flavour of the cherry is obvious.

I have proposed elsewhere (Matthen, forthcoming), that if you individuate the sense-modalities according to receptor types, then flavour perception is multisensory, while if you individuate them by perceptual activity, it is separate and single. Louise should not have to contest this. She does not think that ECS takes a position on whether or not flavour perception cuts across receptor types.

7. Where does ECS come from? By citing my dog (§5 above), I tried to show that it is not coeval with perception. We are all convinced that we apprehend flavour by putting things in one's mouth, and odour by sniffing. But, as I have been saying, this does not *imply* that the apprehension of flavour is non-olfactory.

Like all other "conceptions", ECS is fluid. (A conception is how somebody conceives of something. Unlike a *concept*, it is thinker-relative.) Imagine that you are subjected to the following (entirely fictional) experimental protocols.

You are asked to rate the intensity of the flavour of cheese in two different conditions. In some conditions, a strong odour of freshly roasted coffee beans is present, and in others no odour is present. You discover that in the first kind of condition, the felt intensity of flavour is lower.

You are given amplified auditory feedback of you are chewing through headphones. You become extremely sensitive to flavour differences among foods that have a different mouth-feel.

You are given a device that provides you with a slight electrical stimulation when you put it on your face. It gives you a heightened experience enjoyment of spicy foods, much like taking a fizzy drink.

These protocols are not very different from some that Louise mentions. But imagine that you experience them yourself, often enough that they modify your own expectations of flavour. Would you change your view of how you experience flavour? Imagine that you began to sniff coffee when an overly sharp cheese was presented, or that you deliberately used the face stimulator when you were about to enjoy spicy food? Would you then be inclined to think that olfaction or touch was relevant to flavour perception?

Of course, you would continue to believe that you perceive flavour by tasting. But would you continue to believe that the experience of flavour is wholly non-olfactory, non-auditory, or non-tactile, as it might be? (Do you really believe this now?)

8. Scientists give us a variety of reasons for thinking that the senses should not be individuated in traditional ways. Usually, however, these are presented to us in ways that do not affect everyday conceptions of how we perceive.

Consider the idea that touch is not unified. Jack Loomis and Susan Lederman (1986) write:

Although tactual examination of an object results in a phenomenologically unitary perceived object . . . the research literature acknowledges that what to the layperson is the “sense of touch” in fact comprises two distinct senses—the cutaneous sense and kinesthesia . . . (The fact that the cutaneous sense contributes to kinesthesia prohibits a sharp division between the two in terms of mechanism but not in terms of function.)

Here, as in many other instances, the authors re-descriptively split up phenomenology ordinarily taken as unified. Presumably, there are good reasons why the everyday notion of touch is taken to be a single unified way of perceiving. The Loomis-Lederman re-description does not upset these good reasons. Thus the everyday conception survives as a competitor to the re-description. They leave it open to us to say that in an everyday sense, touch is unified.

9. Consider the McGurk Effect. In one demonstration of this effect (McGurk and MacDonald, 1976), subjects see a video of a person saying “ga”, alongside a synced audio track of a person saying “ba”. They report *hearing* “da” (or a relevantly similar phoneme, such as “ta”). However, when they close their eyes, they correctly hear “ba.” Here, some argue that since subjects’ *auditory* representations of speech result, to a significant degree, from the *visual* stimulus, i.e., from the hearer’s visual perception of how the speaker produces speech, this is a case where *two* senses essentially contribute to *one* unified percept (i.e., the subject’s “da-experience”), and thus, a case where a single experience is audio-visual.

Now, in this presentation of the McGurk Effect, subjects clearly feel that they *hear* “da” in the case where they see the video track, and equally clearly *hear* “ga” when they close their eyes. (This is explicit in McGurk and MacDonald’s description.) The everyday conception of the senses gives great weight to phenomenology, to the feel of the information people get. On this conception, people *hear* “ga” or “da” in both conditions, regardless of what information and what senses are playing a role behind the scenes.

On this presentation, the McGurk Effect does not directly affect ECS. Nor do the authors claim it does. They write: “Contemporary, auditory-based theories of speech perception are inadequate to accommodate these new observations: a role for vision . . . is clearly illustrated.” As with Loomis and Lederman, we are confronted by a situation in which two conceptions of the senses deal with the Effect in different ways. This is the shape of the dialectic in Louise’s paper. ECS does not take a stand on the sorts of things that scientists say, and hence it is always left standing.

10. But what happens when we put pressure directly on ECS? Suppose that somebody with normal hearing got very good at reading lips. Suppose that this person *always* looked intently at speakers’ mouths when she could. Suppose that speech perception was for her an integrated audio-visual activity that involved hearing as well as looking; suppose that it was impoverished when she couldn’t see the speaker’s mouth, or when she couldn’t hear his voice. She realizes that when she isn’t both looking and listening, she often misperceives speech. Would this perceiver say that she perceived speech by hearing and looking together? This is the kind of situation that we should envisage with regard to the examples presented in §7. The involvement of retronasal olfaction and other components of flavour perception is made evident to the subject because her actions are affected. It doesn’t seem obvious to me that this subject would cling to a belief that flavour perception is wholly tongue-based.

Everyday conceptions do change. We know that we do not think of earth, air, water, and fire in the same way as Aristotle did: we simply do not think that every luminous object is fiery, for example, as Aristotle did. How did this change occur? I

do not know, but it is entirely possible that the chemical demonstration that flame is a specific high-temperature phenomenon was not enough to bring about the change.

My suggestion, made quite tentatively, is that sensitizing perceivers to the effects of multi-receptor perception can bring about the changes to the everyday conception of the senses. Whether this is correct or not, I want to suggest that the interaction between scientific and everyday conceptions is a good bit more bidirectional than Louise is willing to allow.

11. Because Louise is writing about conceptions, she has to be open to how conceptions are modified. She mainly considers cases where science has agenda that are at cross-purposes to those deployed by everyday concepts. Those cases don't put any pressure on everyday concepts.

My point is that scientific discoveries show the way to modifications of perceptual practice. In §§ 7-10, I have been speculating on how these modifications could put pressure on ECS.

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