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Odors, Objects and Olfaction

Dan Cavedon-Taylor – University of Southampton

D.Cavedon-Taylor@soton.ac.uk

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Abstract

Olfaction represents odors, if it represents anything at all. Does olfaction also represent ordinary objects like cheese, fish, and coffee-beans? Many think so. It is argued here that such a view is in error. Instead, we should affirm an austere account of the intentional objects of olfaction: olfactory experience is about odors, not objects. Visuocentric thinking about olfaction has tempted some philosophers to say otherwise.

I. Introduction

When philosophers theorise about perception in general, they tend to focus on vision in particular. This trend is beginning to shift. It is increasingly recognised that we will have a skewed account of perception if we try to shoehorn all of our senses into the visual mold. One motivation for rejecting such visuocentric thinking about perception is the fact of widespread interactions between the senses. Experimental evidence of multimodal interactions and crossmodal links indicates that there may be no purely visual experiences to begin with.ⁱ Another motivation for rejecting visuocentric thinking is that there are philosophical puzzles which are unique to our non-visual senses. For instance, we hear sounds to have pitches, timbres, and degrees of loudness. Do we also hear sounds to be located in distance and direction? What are sounds: properties, individuals (i.e. waves), or events? And what of touch? The properties we tactually experience include spatial properties, texture properties, and weight properties. Are any of these definitive of touch? Is there an organ of touch? And what role does touch play in taste, given that we only taste objects if they contact our tongue? Philosophical puzzles of the non-visual senses abound.

My focus here is on olfaction. The question I seek to address is this: what are the intentional objects of olfaction?ⁱⁱ

A commonly held view is that olfaction has a dual representational nature: it represents odors, but it also represents concrete particular objects. Odors are the direct, or immediate, intentional objects of olfaction while concrete particulars are its indirect, or mediate, objects. So more specifically, one olfactorily represents concrete particulars indirectly, *by* or *in* representing odors. For instance, by smelling the scent of a rose one thereby smells the rose. In smelling the odor of rotting fish one thereby smells those gone off fish.ⁱⁱⁱ

Some of those who have paid philosophical attention to olfaction seem to find this view attractive:

You smell the cheese by smelling the smell of the cheese. (Crane 2009, p. 465)

By smelling a certain familiar odor I also smell, veridically or not, a dog. (Lycan 1996, p. 148)

[W]e smell things by smelling the odors they give off. (Tye 2002, p. 142)

But there is another view, which is that olfaction represents only odors, not concrete particulars. Call such a view *olfactory austerity*. This paper develops an argument in support of olfactory austerity.^{iv} If olfactory austerity is true, then we have one more reason to reject visuocentric thinking about the senses. Vision may be about ordinary objects, such as cheese, dogs, and fish, but olfaction is not. Whatever similarities are shared between the senses, we will have the wrong view about perception's intentional objects if we generalise from vision alone.

I begin, in section II, by marking a distinction between two theories of the metaphysics of odors: one on which they are properties and another on which they are individuals. In section III, I present an epistemic argument for olfactory austerity, one that is neutral between these theories. In section IV, I critically discuss a view recently developed by Katalin Farkas and Tomasz Budek (2014) on which olfaction sometimes represents only odors, sometimes represents objects and odors, and on other occasions represents objects alone. I conclude, in section V, by defending olfactory austerity from the objection that olfaction must represent objects if it is to have substantial ecological value.

Before beginning, a word on the claim that olfaction has both content and intentional objects. It is sometimes said that olfactory experiences are not happily analysed in representational terms. This is not because it is thought that they are better analysed relationally, as a naïve realist might. Rather, it is thought that the phenomenology of olfaction favours a conception of olfactory states as nothing more than non-intentional, non-relational qualia (Peacocke 1983, p. 3). In adopting the representational framework, I assume that to be false. Phenomenological reflection on one's mental states is a delicate and highly malleable process. Nonetheless, keen attention to olfaction's phenomenology can show it to be world-directed. For instance, phenomenological reflection on the role of sniffing in olfaction, as involving bringing within that which is without, shows the error of a purely sensational, non-representational account of olfaction (Batty 2010b; Richardson 2013). Moreover, we ordinarily think that olfactory experiences can be more or less accurate. This is evidence that we are implicitly committed to a view of such experiences as representations which can thus sometimes misrepresent (Batty 2010c; Lycan 1996, ch. 7).

II. Stinking Metaphysics

Olfactory austerity says that olfaction represents odors and not objects. Henceforth, by 'objects' I will mean 'concrete particulars' and by 'olfaction's intentional objects' I will mean 'that which olfaction represents.' Olfactory austerity denies that the former are ever among the latter.

Now, everyone agrees on at least two things: (i) that we represent objects in belief and (ii) that olfaction represents odors, if it represents anything at all. From the perspective of debate over olfactory austerity, (i) is relatively uninteresting: those who deny olfactory austerity think that there is representation twice over, claiming that we represent roses olfactorily and that we also represent roses in belief. Those who affirm olfactory austerity claim that we represent roses in belief alone. But in asking whether olfaction represents only odors, or whether it also represents objects, it is important to get clear on what odors are. In doing so, we get clear about the relation that odors stand to objects, groundwork that is necessary for my argument in section III and for assessing whether olfaction can represent objects.

So what are odors? Ordinary language is cavalier. Odor-talk is ambiguous between talk of a property and talk of the individual that is the bearer of that sensible. Consider: 'the smell of a

rose' might be taken to refer to something repeatable, instantiated wherever there are sweet smelling roses. Alternatively, 'the smell of a rose' might be taken to refer a thing taking up space in the florist's shop and diffusing into the air. According, we might identify odors with properties or we might identify odors with individuals, specifically: molecular clouds.

The view that odors are properties predominates early modern thinking. Locke ([1689] 1996) repeatedly mentions odors alongside colors and tastes. Reid ([1764] 2000), despite disagreeing with Locke about the reality of sensible qualities, follows suit. More recently, Michael Martin (2010, p.187) has claimed that odors are "pure universals." Vivian Mizrahi (2014, p. 235), who defends a sophisticated version of the property theory, writes "the intentional objects of olfactory perceptions, the odors, are best conceived as properties."

What would such odor-properties be properties *of*? Here, there is room for disagreement. To see how different theories might develop, let us note, very roughly, what happens in veridical olfactory perception. First, there is an event: molecules evaporate from an object. Second, those molecules form a cloud. Third, molecules from that cloud travel up the perceiver's nose. Fourth, the molecules contact the olfactory bulb. Last, olfactory experience arises after sub-personal processing of the resulting stimulation.

While it is open for a property theorist to claim that odors are properties of the evaporating event occurring at stage one, a more plausible view is that they are properties of the resulting cloud. Indeed, Clare Batty (2009, p. 324) claims it is "properties of [molecule clouds] that are presented in olfactory experience." Consider also Batty's (2010b, p. 109) claim that "we think of an odor as being 'around us,' in the air. We might say that the room smells. But what we really mean is that the air in the room has a distinctive property."

Batty's (2009) view is complicated by the fact that she calls these properties 'smells' and the relevant molecular clouds 'odors.' For my purposes, however, Batty holds a property theory of odor, when 'odor' means 'the (immediate) intentional object of olfaction.' (Note the contrast with Lycan's, Tye's, and Roberts's positions, which I discuss shortly.) On such a view, odors are properties that qualify an individual which is dispersed in the air. This view vindicates the sense in which we commonly think of the air in different regions of space as smelling the same. Imagine that in opposite corners of a florist's shop are roses, while between them are lavenders. Batty's view allows us to say that the regions of air in the opposing corners *have* the same odor to them, in the same way that the roses in those opposing corners *have* the same color.

Could odors be properties of objects themselves? Mizrahi's (2014) version of the property theory is advertised as allowing one to say just that. Mizrahi holds that odors are properties not of molecular clouds or objects, but of 'stuffs.' 'Stuffs' is a technical term. Stuffs are typically referred to using mass nouns and themselves refer to the matter(s) of which object(s) are composed. For instance, copper, water, and wood are stuffs. Now, stuffs per se are not individuals. They cannot be counted, they do not exist in space or time, and they do not have shape or size. However, the contrary is true of *portions* of stuff. On this view, odors are properties in the air by virtue of being properties of the evaporated stuff in the air. Crucially, since the source object is composed of the relevant stuff, odors are also in the non-evaporated stuff composing the object. More specifically, odors, on this view, are properties of portions of stuff, evaporated or otherwise.

Arguably, a property theorist need not affirm the existence of stuffs to make sense of the idea that odors qualify both molecular clouds and the objects from which such clouds evaporate. After all, such clouds are minute pieces or traces of those objects, whether or not one considers objects to be composed of stuff. For in smelling a rose, it is trace quantities of the rose itself that enter one's body, contacting one's olfactory bulb. So, for those who identify odors with properties of molecular clouds, it is a short step to thereby also identifying odors with properties of the object from which the cloud evaporated. In what follows, I will ignore this complication and focus on the property-theorist's claim that odors are properties of the molecular cloud.

William Lycan suggests a very different picture of what odors are:

Consider what an odor is... It is a vaporous emanation, a diffusing collection of molecules typically given off from a definite physical source. It is itself a determinate physical thing that makes physical contact with the smell receptors in one's olfactory epithelium and sets them to firing... [T]hey are public physical entities available for sensing by anyone who, fortunately or unfortunately, happens by. (1997, p. 146)

Whereas the property theory says that odors qualify molecular clouds, Lycan identifies odors with such clouds. He claims that odors are not properties, but are, as quoted, *entities* and *physical things*, that is, the clouds themselves.

Lycan is not alone in defending this view. Tom Roberts (forthcoming, p. 7) writes: “I shall treat odors – collections of fragranced particles in the air – as the immediate objects of olfaction.” Michael Tye, in drawing an analogy between olfaction and audition, agrees:

[W]e hear things by hearing the sounds they emit. These sounds are publically accessible. They can be recorded. Similarly, we smell things by smelling the odors they give off. They too are publically accessible. You and I can both smell the foul odor of rotting garbage. Odors, like sounds, move through physical space. (2002, p. 142)

In claiming that the odor of rotting garbage is an intentional object of olfaction, yet something that moves through physical space, Tye is implicitly affirming that odors are individual molecular clouds, rather than properties. For one, Tye claims that objects *emit* sounds. Presumably, this is to assume sounds are waves, rather than properties or events. On such a view, sounds are individuals. So, in order to charitably understand the sound/odor analogy that Tye is offering us, we must understand him to be affirming that odors are also individuals.

Call this view the *individual theory of odor*. Like the property theory, it has distinctive merits. When a particularly unpleasant odor is before us, we waft our hands in front of our noses to move it along, or to disperse the cloud. In doing so, we take ourselves to be moving the odor itself, which we believe to spatially extend before us. Crucially, we don't simply take ourselves to be moving a bearer of the odor, a thing that has, or which is merely qualified by, the offending smell. Rather, odors are *themselves* thought to move, spread through rooms, and so on. And insofar as we believe that odors can be destroyed, we are committed to thinking of odors as having temporal duration no less than spatial extent. Consider, for instance, how household products are marketed as eliminating odors. It is the individual-theorist who most easily accommodates this way of talking. (A property-theorist will say that this is a case in which either the bearer of the odor is eliminated or has undergone a change in olfactory properties.) Identifying odors with individual, evaporated molecule clouds vindicates our thinking of odors as spatially and temporally extended, whereas the property theory does not.

So each theory has its merits, relative to ordinary thought and talk. The property theory allows us to understand odors as repeatable dimensions of similarity; that is, as qualifying regions of air, spaces or objects. The individual theory makes sense of odors as things that

take up space, come into existence at a particular time and get destroyed at a later time. In what follows, the argument I will give for olfactory austerity in section III will be formulated in terms of both theories.

A final word on these two views. It is tempting to think that the disagreement between them is merely verbal.^v After all, both views agree that there are molecule clouds and that these clouds have properties. So shouldn't which one gets called 'odor' be pictured as a non-serious matter, rather than something that could spark substantial metaphysical debate? Indeed, while there is a lively debate in the philosophy of audition over whether sounds are properties (Pasnau 1999; Kulvicki 2008) or individuals (O'Callaghan 2007), it is striking that there is no corresponding debate between so-called 'property-theorists' and 'individual-theorists' in the literature on olfaction.

I don't think that this assessment is right. Even if there were not two different theories of odors implicated in the literature, there *could* be two such theories, at least in principle. This is shown precisely by reflecting upon the debate about whether sounds are properties or individuals and noticing important metaphysical-cum-phenomenological similarities between these audibilia and olfactabilia. For instance, both have a somewhat 'ethereal' nature: sounds and odors bear some close relation to objects, but common sense also allows that they are capable of disengaging from objects and may be legitimately described as floating, wafting or travelling. Hence, we can feel ambivalent about whether sounds are properties or whether they are distinct individuals, such as waves. The same, I claim, is true of odors. Moreover, explicit acknowledgement of the existence of two distinct accounts of the metaphysics of odors does occasionally surface. For instance, Alex Byrne writes:

[W]hat is the smell of the lilacs? One candidate... is a certain odiferous property of the lilacs. On this reading, sweetness 'characterizes' the smell of the lilacs in the sense that it is identical to the smell; it is identical to an odiferous property of the lilacs. Another candidate for the smell of the lilacs... is a certain volume of gas, an 'effluvium', or 'vaporous emanation'. On this rival account, sweetness 'characterizes' the smell of the lilacs in the sense that it is a property of the smell—the effluvium emitted by the lilacs. (2009, p. 269)

Katalin Farkas and Tomasz Budek point out much the same and note that the debate may likewise arise when it comes to the metaphysics of tastes:

Proper and primary ‘objects’ are sometimes conceived as qualities: for example, when it is claimed that colors are proper objects of vision. In this case, ‘object’ is not an ontological category, but simply signals that something is perceived in a certain modality. But proper and primary objects need not always be qualities. A ‘sound’ can be understood as a spatio-temporally located physical existent. Similarly, smells or tastes (or perhaps ‘odors’ and ‘flavors’) can be understood not as qualities, but as quantities of certain chemicals. (2014, p. 356)

So although serious debate about the metaphysics of odor is lacking in the relevant literature, we certainly have the grounds here such a debate. One consequence of these differing views is that arguments for or against the proposition that olfaction represents objects, by representing odors, will need to be formulated differently, according to each theory. That is what I shall turn my attention to now. I shall be arguing that the proposition is false.

III. Olfactory Austerity

The epistemic argument for olfactory austerity turns upon the following principle:

Veridicality principle:	Theories of perceptual content should not postulate widespread perceptual error
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This principle may seem bald and stark. Yet there are good reasons for accepting it. First, whatever their differences, the senses evolved and so have been ecologically advantageous for us. In particular, our senses allow us to navigate through, and act within, our environments. Insofar as we are ordinarily successful in doing so, our senses are reliable guides to what is in our environment. A theory which rendered perceptual experiences frequently non-veridical would be at odds with this. Moreover, insofar as perceptual experiences bear some minimal justificatory relation to beliefs formed on their basis, we have another reason to discard any theory which has as its consequence that perceptual experiences are commonly in error.

Both these considerations are epistemic in nature. Straightforwardly, the senses play a key epistemic role in our everyday lives. This is no less true of olfaction than it is of vision, audition, touch, and the rest of our senses. Upon opening a fridge and smelling a foul odor, one can sniff near each shelf in order to locate the gone off food. Insofar as such behaviour is rational, and insofar as one is usually successful in the task, one's olfactory experience must play a justificatory role with respect to one's belief that there is a foul odor, and so likely to be gone off food, in the fridge.

Batty has championed an epistemic argument for olfactory austerity that implicates the veridicality principle. Batty's focus is on cases in which one smells the odor of a destroyed source object. One such version of the argument runs as follows:

You come home from work and, even though the fish has long been consumed and any trace of it has been washed away or taken outside to the trash, you smell fish... [I]f olfactory [intentional] objects are things like fish, your experience must be non-veridical. The fish is not around you... But it doesn't seem right to conclude that this experience is non-veridical... [T]he view that olfactory objects are ordinary objects makes for an implausible amount of olfactory misperception. (2010b, p. 1150)

Batty, we saw previously, holds a variant of the property theory of odor (though she calls these properties 'smells' and reserves the term 'odor' for clouds). Moreover, Batty claims that olfactory content has only a kind of very 'weak' existentially quantified content: while olfaction can represent the instantiation of more than one odor, it never attributes such properties to anything more than a single 'something or other' at the location 'here.' Thus, according to Batty, there is no such thing as smelling, while there is such a thing as hearing or seeing, something to be across the room from one.

Christopher Mole has recently objected to Batty's argument for olfactory austerity. Mole believes Batty is misled by a narrow focus on cases in which the odor is "extremely pungent... in which the whole room is filled with [it]." (2010, p. 117) Why should this matter? Mole claims that intense perception, in any modality, involves minimal locational content. Both loud fire alarms and strobing lights may be experienced to be at no location other than 'here.' Since these cases of intense perception do not have any general consequences for auditory or

visual content, why take it that their olfactory analogue, pungency, will tell us much about olfaction's content?^{vi}

It is not clear how these considerations challenge olfactory austerity itself, rather than Batty's argument for it. However, insofar as Batty's argument for olfactory austerity rests upon the idea that olfaction lacks locational content, let us assume it to be challenged by Mole's claim that we cannot draw conclusions about perceptual content from fringe cases of intense perception. Crucially, however, rather than mounting a case for olfactory austerity by focusing on situations in which pungent odors persist after a source object is moved or destroyed, one can instead conclude in favour of olfactory austerity by focussing on a different feature of odors: that they transfer from one object to another.

Unlike cases of intense perception, the transference of an odor from one object to another is commonplace and so cannot be considered on a par with rare experiences of strobing lights or deafening alarm bells. By way of illustration: the odor of one's deodorant or perfume transfers to one's clothes. Late in the day, one's clothes may have acquired one's body odor. Once washed, both the deodorant's or perfume's odor and one's body's odor are removed from the clothes, but only to be replaced by the odor of washing liquid or fabric softener. Olfactory experiences of transferred odors are not exotic curiosities: the odor of one's dog transfers to the couch, the garlic's odor to one's hand, the bonfire's odor to one's coat, and so on. The phenomenon presents a practical problem for chemical engineers: food-packing must be designed in such a way that its odor does not transfer to the food it contains and, in doing so, spoil the food's flavour.

From these considerations we can derive an argument for olfactory austerity. Start by granting, for the sake of a *reductio*, that olfaction represents objects, in addition to representing odors. Now, consider olfactory experiences of transferred odors. If olfaction represents objects, in addition to odors, then olfactory experiences of transferred odors are non-veridical, a claim which I shall unpack momentarily. Such experiences are commonplace, as illustrated above. So if olfaction represents objects, in addition to odors, then olfaction is commonly in error. But this is not a conclusion that we can tolerate, given the veridicality principle. The solution is to deny that olfaction does represent objects, over and above odors. Then, olfactory experiences of transferred odor are veridical, which is just as things should be. I expand on this argument and consider some objections in the remainder of the section.

Apart from the veridicality principle, the argument hinges upon the claim that if olfaction represents objects, then experiences of transferred odor are non-veridical. Why believe that? Consider olfactory experience of a garlic odor, transferred to one finger. Mole (2010, p. 117) claims that this is a situation in which olfaction represents the finger to be “the bearer” of the garlicky odor. Olfaction, Mole claims, does not simply represent “an object-disengaged garlic smell.” In affirming this, Mole disagrees with olfactory austerity: he claims that when olfaction represents the garlicky odor, it thereby also represents the finger. In particular, Mole claims that the finger is represented to be the bearer of the garlic odor and, in doing so, shows his commitment to the property theory of odor. On this theory, the garlic odor is a property of the molecules composing a piece of garlic which, in its being chopped up, disengage from the garlic and come to rest on one’s skin in the form of an oily liquid. When the molecules of that liquid evaporate, forming a cloud and travelling up one’s nose, one smells garlickiness. Mole’s claim is that the property is olfactorily attributed to one’s finger in the way that, for example, redness, may be visually attributed to a tomato. In seeing the redness, one sees the tomato. In smelling the garlickiness, one smells the finger.

The key claim I want to focus on is Mole’s statement that olfaction represents garlickiness to be a property of the finger. Suppose we grant this, again for a *reductio*. Notice that the olfactory experience being described must be considered non-veridical. Why? Simple: one’s the finger does not instantiate garlickiness. One’s finger is no more a bearer of garlickiness than is an oak desk a bearer of whiteness when covered by a white tablecloth. The garlickiness does not *belong to* the finger any more than does the whiteness of the cloth *belong to* the oak table. Both these properties, ‘garlickiness’ and ‘whiteness,’ belong to something on the surface of the finger and desk, respectively: the oily collection of garlic molecules and the tablecloth. The finger itself does not instantiate garlickiness, just as the oak table does not instantiate whiteness.

Thus, someone who, like Mole, holds that olfaction represents objects in addition to odors must admit that experiences of transferred odor are non-veridical. Olfaction, it is claimed, represents the finger to instantiate garlickiness. Yet that content is false, since garlickiness isn’t instantiated by the finger. And, once we have noticed this, we then have our *reductio* against the claim that olfaction does represent objects, over and above odors. For, given the veridicality principle, and given that experiences of transferred odor are commonplace, we cannot accept the conclusion that olfactory experiences of transferred odors are non-veridical.

I now reframe this argument in terms of the view of odors as individual molecule-clouds, rather than properties of such individuals.

On the individual theory of odor, experiences of transferred odors can only be in error. For recall that, on this view, odors are minute particles of source objects. So consider again the garlic molecule cloud. It is just that: composed of particles from the oily garlic-liquid on one's finger. It is that oil from which the cloud has emanated, rather than from the finger. (Fingers don't emanate garlic clouds.) Thus, if the finger were to be olfactorily represented, in addition to the garlic molecule cloud, then the experience would be in error. It would be non-veridical, representing the finger to be the source of the garlic odor when the source is really the oil or perhaps the now chopped-up bulb. So, the reductio follows again, on this view no less than on the property view.

What I have argued above is that, no matter one's view on the metaphysics odors, including objects in olfactory content renders non-veridical our experiences of transferred odors. Crucially, with the veridicality principle in place, and the epistemological motivation supporting it, this amounts to a reductio against the claim that olfaction represents objects. By contrast, if olfactory experience represents only odors, then experiences of transferred odors are wholly veridical. When one lifts one's finger to one's nose after cooking, one smells a garlic odor. And a garlic odor is present in the vicinity of one's finger: having touched a clove of garlic, molecules from it are on the surface of one's finger, evaporating into the air and contacting one's olfactory bulb. Nothing is amiss here from the point of olfactory content, if only odors are olfactorily represented. This is just as it should be. If we want our theories of olfactory content to accommodate the veridicality principle, then we should affirm olfactory austerity.^{vii}

A potential objection: olfactory experiences of transferred odor, if they represent objects in addition to odors, are not wholly non-veridical. Such experiences are non-veridical along one dimension only: the content which represent objects. The experiences remain veridical with respect to the dimension that represents the odor. So much is true. But those who believe olfaction to represent objects should take little comfort from this fact. After all, it is the content that represents the presence of the object that matters to them. The very point of the epistemic argument is to show that the motivation for postulating that content is undercut if it turns out that such content is often in error. In the case of transferred odors, both theories of the metaphysics of odor are committed to just that.

A worry about the veridicality principle: on some views of color perception, color experiences are entirely non-veridical (Hardin 1988; Boghossian and Velleman 1989). But for all that, color experiences are ecologically advantageous. So widespread non-veridicality *tout court* cannot be particularly troublesome. So much is true. What this motivates is distinguishing between systematic and non-systematic non-veridicality. Systematic non-veridicality is reliable. Non-systematic non-veridicality is not. Of the two, it is the latter that we should be concerned to eliminate from our theories. Plausibly, theories that render color experience non-veridical may be made palatable by reference to systematic causal connections between surface spectral reflectances and our visual systems. On such views, color is a phantasm of the senses, but in a tolerable, perhaps even respectable, way. For such experiences aid the identification of objects as well as one's ability to navigate one's immediate environment, despite misrepresenting it as actually colored. This is systematic non-veridicality.

Non-systematic non-veridicality is much more problematic. It is only on freak occasions that we should find perceptual content to be anarchic. The non-veridicality that ensues from having objects figure in the content of olfactory experience is of this second, more problematic kind. Consider again Mole's case in which we are told that olfactory experience represents garliciness to be instantiated by one's finger. Crucially, there is no systematic connection between the finger itself and one's olfactory experience. For suppose the finger raised to one's nose to be one's index finger. Now suppose that, counterfactually, one's ring-finger was the one covered in garlic oil and it, not one's index finger, were raised to one's nose. From the perspective of olfaction, things would seem exactly the same. Olfaction cares not at all for what object the garlic oil rests upon.

If this is right, then the finger raised to one's nose is a dispensable part of the causal chain leading up to the olfactory experience. Crucially, since the conscious character of that experience seems not to essentially depend upon the finger, then, if the experience were to represent that finger, it would not only be non-veridical, but non-systematically so in that the same experience would result if any other finger (and a number of other objects) were instead coated in garlic oil and raised to one's nose.

The foregoing remarks suggest a different interpretation of experiences of transferred odors. On the alternative interpretation, it is not that olfactory content represents the proximal object: the finger. Rather, the finger is an olfactorily transparent medium through which the original, source object is represented: the garlic bulb. On this view, the object to which the

odor has transferred is not olfactorily represented. It is agreed to be a merely dispensable link in the experience's causal history, but one which relates the olfactory experience back to the source object. On this proposal, the finger stands to the olfactory experience of garliciness as do light-rays from the finger stand to a visual experience of the finger. They are not *what* is perceived, but are that *through which* one perceives.

This account agrees that the finger is non-essential element in the history of the olfactory experience of the garlic odor. But it still makes for an intolerable degree of non-veridicality. On this account, experiences of transferred odor incorrectly tell us that the source object, for example, a dog, a bonfire, or a garlic bulb, is present when what's actually in the vicinity is something else: a couch, a coat, or a finger, respectively. Again, the motivation for including objects in the content of olfactory experience is undercut if its consequence is so much olfactory error.

IV. Farkas and Budek

So far I've argued against a widely-held view that we smell objects by smelling their odors. A richer view is defended by Farkas and Budek (2014). They hold that on some occasions we just smell the odor, while on other occasions we smell the object by smelling the odor; on some occasions further still, they hold that the odor is the medium through which the object alone is smelled. This is a rich and provocative theory. Some comments on it are in order. Farkas and Budek's view of odor is naturally interpreted as an individual-theory. I will assume that theory throughout this section.

The basis for Farkas and Budek's account of olfactory content is the twofold claim that (i) on different occasions, different elements of an experience's causal chain may become phenomenally present to the subject in perception and (ii) if X is phenomenally present to the subject, then X is *ipso facto* in the content of the subject's perceptual experience. Taken together, they motivate Farkas and Budek's claim that olfaction is, at least sometimes, about objects and not simply odors. On some occasions, the cheese, or flowers, or garlic bulb, whose odor one smells, is phenomenally present in olfactory experience, but other times only the odor is.

Distinctly, Farkas and Budek take issue with olfactory austerity, again on phenomenological grounds. They claim that there does not seem to be an intermediate, inferential step from

olfactory experience of the aroma of coffee to some non-perceptual representation of the coffee. On all these matters, Farkas and Budek (2014, p. 361) claim to “take phenomenology at face value.” But a defender of olfactory austerity will deny that they have been successful. In this section, I will try to make that denial plausible.

First, is there a phenomenal contrast between smelling the aroma of coffee, versus smelling the coffee itself, versus smelling the coffee by smelling the aroma? On Farkas and Budek’s account, these are three distinct olfactory experiences that a subject may undergo. Yet there is not obviously such a thing as switching between these three states. That is, there is not obviously such a thing as going from smelling the aroma to either smelling the coffee or smelling the coffee by smelling the aroma. Such switches would be matched by salient phenomenological differences, by Farkas and Budek’s own lights; different parts of the causal chain would become phenomenally present out. One may plausibly deny that they seem present at all, in the case of coffee or otherwise.

Second, central to Farkas and Budek’s view is that the switch from smelling the aroma to (also) smelling the coffee is effected by the subject’s learned association between the aroma and the presence of coffee. Does olfactory experience change upon familiarity with the relevant stimulus? Plausibly, yes. But that can be captured by the modest claim that the aroma smells different—qualities that were previously unnoticed are now phenomenologically salient—rather than the more extravagant claim that learned associations allow the subject to smell more things than they did previously.

Third, an important question is whether distal links in the causal chain, which a subject may strongly associate with the proximal odor-stimulus, can become part of olfactory content. For instance, I may strongly associate the aroma of coffee with the machines that sort coffee beans by size at the processing stage because I am an engineer who spends long days fixing such machines. As a non-coffee-drinker, I may associate the aroma of coffee more strongly with this processing stage than with cups of coffee themselves. Still, it is implausible to hold that the sorting of the beans is something I smell when I smell coffee.

Fourth, there is room to doubt that even proximate elements in the causal chain can be made phenomenologically present to one via learned associations. Consider such associations in greater depth. It simplifies matters greatly to focus solely on one thing that we associate with the aroma of coffee. For we associate that odor with any number of things. We associate the aroma of coffee with certain objects, like cups. We associate the aroma of coffee with certain

events, like pourings. We associate the aroma of coffee with certain stuffs, like water. If cups, pourings and water are suitable candidates for what olfaction represents, then they are not phenomenologically obvious ones. They are not, that is, present in olfaction 'at face value,' if at all. (Water, for instance, has no smell.) Still, subjects are likely to strongly associate them with the aroma of coffee.

At this point I wish to confess a failure of imagination: I have no sense of what it would be like for olfaction to represent things like roses (one, two or hundreds?) or coffee (the beans? the grounds? the liquid? a cup of such liquid?). I am even less sure what it would be like for olfaction to have two contents, assuming they are introspectable: one about the odor and another about the source object. Consider that insofar as the cloud is a collection of molecules which has evaporated or emanated from the object, the two are related in a quasi-part-whole/quasi-causal relation. Presumably, olfaction has to represent that relation, if it is to successfully represent one (the object) *by* representing the other (the odor). How else could one supposedly go from representing the latter to representing the former? (Not by learned associations, if what I have said above is correct.) But can olfaction really do *that*: represent part-whole or causal relations?

As for Farkas and Budek's suggestive idea that the odor may transform into the medium through which the object is smelled, there are problems with this claim too. Does olfactory experience seem to travel through the odor permeating the house, as vision does in a hall of mirrors; that is, out the door, down the stairs, around the corner and into the kitchen where the coffee is? This is also far from obvious. Granted, the coffee downstairs in the kitchen is typically brought to mind by smelling its aroma. Maybe one is brought to believe that there is coffee downstairs. Maybe one visualises it. Maybe there is some cognitive phenomenology at play. But olfactory experience itself does not seem to tell one what is through the door, down the stairs and around the corner (to the left or right? how many paces?). These are phenomenological assertions which I have provided scant support for. They seem right to me. Farkas and Budek would no doubt report intuitions that conflict with mine. But all this highlights is the familiar idea that, *contra* Farkas and Budek, appeals to phenomenology cannot be the determining factor when it comes to specifying the contents of experiences, olfactory or otherwise. They are mistaken in thinking that olfactory phenomenology has a face value to it that can serve as the basis for our theories of olfactory content.

V. Conclusion

I have argued in support of olfactory austerity: olfaction represents odors (whatever they are, exactly) not objects. One reason why some philosophers are wary of this view is that they believe it fails to acknowledge the ecological value of olfaction. Lycan writes:

[W]e must suppose that if smells do represent anything at all, they do after all represent environmental objects of potential adaptive significance. Surely, this is what olfaction is *for*, to signal food, predators, shelter, mates. (1996, p. 147)

Mizrahi agrees:

[I]t seems quite plausible to suppose that the human olfactory system has evolved to recover information about odor sources, like food or potential dangers. (2014, p. 245)

These remarks not only challenge olfactory austerity, they suggest another potential reply to the veridicality principle: widespread error is not unacceptable, since including objects in the content of olfactory experience is the only way to secure the ecological advantage of olfaction. The insinuation here is that a theory which holds that we smell only odors thereby fails to secure olfaction's ecological value. In closing, I will attempt to defuse this worry.

First, it is wrong to think that the smelling of an odor fails, by itself, to be of potential adaptive significance. That an animal can smell the odor of rotting meat, or the body odor of predators, is adaptively significant if anything is. So we should ask ourselves: how much is lost if, as on olfactory austerity, olfaction fails to signal the presence of food, predators, shelter, mates, and so on.? The answer is: not much at all. Since what remains true is that olfaction signals the presence of the odors *of* such objects. The reason why not much is lost is that these odors are reliability correlated with objects insofar as they are either evaporated parts of those objects or properties of such parts by virtue of being molecular clouds of such objects or the properties of clouds. On olfactory austerity, there is a systematic connection between odors and objects which can serve as the basis for an inference to the judgment that the source object is in one's vicinity.

Second, there is a sense modality that we definitely know to be in the business of informing us about the presence of such objects as food, predators, mates, and so on: *vision*. Given that, why must olfaction do so as well? Rather than thinking that there are clear evolutionary advantages to olfaction's representing objects, one could just as easily picture it as unnecessarily costly, *pace* Lycan and Mizrahi. In short: vision represents objects; it is not clear why we are forced to claim that olfaction must do so as well. It is a mistake, the mistake of visuocentricism, to think that what holds true of a single sense like vision must hold for our other senses. If what I have said here is right, then olfaction simply does not fit that mold: olfaction is about odors, not objects.

University of Southampton

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Notes

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- i For philosophical overviews and discussion of this research, see Macpherson (2011), O'Callaghan (2015) and Spence and Deroy (2013).
- ii Insofar as my topic forces me to adopt some framework for understanding perception, the representational one is my choice. Loci classici statements of the view include Dretske (1995) and Tye (1995).
- iii I follow the standard procedure of treating 'scent,' 'aroma,' 'smell,' and 'fragrance' as synonyms for 'odor.'
- iv Olfactory austerity is defended by Batty (2010a, 2010b, 2010c) and Matthen (2005: 288). The view is implicitly affirmed by Richardson (2013) and O'Callaghan (2011).
- v This matter was pressed upon me by one of the journal's anonymous referees.
- vi Mizrahi (2014) presses a similar objection.
- vii This is not to say that there is no such thing as olfactory non-veridicality. Clearly, there is. See Batty (2010c) for philosophical discussion, Stevenson (2011) for an empirical perspective and Batty (2014) for a reply.