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Title

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Permalink

<https://escholarship.org/uc/item/13d4s2hn>

Journal

Mind & Language, 41(4)

ISSN

0268-1064

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Publication Date

2026-09-01

DOI

10.1111/mila.70012

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Peer reviewed

ORIGINAL ARTICLE

Is secondary affect secondary? Anosmia, perceptual absence, and veridical secondary affect without primary affect

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Funding information

[NA]

Abstract

This paper challenges the traditional understanding of secondary affect, on which the latter is a cognitive appraisal of a somatic state that already has an antecedent, primary affect. We appeal to cases of acquired anosmia—the loss of the sense of smell—to argue that there are instances where secondary affect arises in the absence of (indeed, *because of* the absence of) primary affect, and that, in this specific sense, that secondary affect need not be secondary after all — and that this can be so even when the secondary state is completely veridical.

KEYWORDS

[smell, anosmia, primary affect, secondary affect, perceptual absence]

“It’s like being in hell,” she says, ... “It’s just devastating, and it interrupts your life so much. You don’t realize how important [the smell of] food has become or was. You take that for granted” (Docter-Loeb, 2023).

1. BACKGROUND: SECONDARY AFFECT

On traditional accounts, secondary affect is a form of affect associated with appraisal of a somatic state — that is, an appraisal of some state of the body, broadly construed. As its very name suggests, it is understood as an *additional* form of affect associated with the appraisal of a somatic state that already has an antecedent, "primary" affect. The distinction between these two layers of affect can be usefully illustrated by the paradigmatic case of chronic pain (cf. Fields, 1999; Price, 2000). A patient's chronic pain has a primary negative affect insofar as it has a negative valence: it is deeply unpleasant for her. However, at least for some pains (such as chronic pains), the bad news does not end there. In a case of chronic pain, the very longevity of the pain makes it (in contrast with shorter-term, non-chronic pains) ripe for further appraisal. If the patient who suffers from chronic pain reflects on her somatic condition, she is likely to evaluate the latter as deeply frustrating, intractable, meaningless (unlike other pains, it is not serving as a warning of acute bodily damage), and not under her control. The realization that all of this is so is itself a *second* negatively affective aspect of the pain state. Price distinguishes between primary and secondary affect in the case of pain this way:

Unlike pain unpleasantness, secondary pain affect is based on more elaborate reflection related to that which one remembers or imagines. This involves meanings such as perceived interference with one's life, difficulties of enduring pain over time, and the implications for

the future.... Pain is often experienced not only as a threat to the present state of one's body, comfort, or activity, but also to one's future well-being and life in general. The perceived implications that present distress holds for future well-being and functioning support the link between pain unpleasantness and secondary pain affect. (Price, 2000, 1769)

The crucial point we want to stress is that, on this understanding, secondary affect is a *further* (whence "secondary") negatively affective aspect — that is, an aspect that is numerically distinct from, and consequent on, the pain's primary negative affect.

In this paper we challenge just this feature of the standard understanding of secondary affect — namely, the idea that secondary affect must arise as a result of the application of cognitive appraisal to a somatic/bodily state with antecedent primary affect. We hasten to add that there are of course further controversial issues about the nature of secondary affect that go beyond the characterization above, and on which we aim to remain as non-committal as possible so as to cast a wide net. Our goal in this paper is not to offer a full theory of secondary affect. It is, rather, to show that the putatively structural feature of secondary affect just identified as a commitment of the standard understanding is inessential. Our claim will be that, while in paradigm cases secondary affect does arise as a downstream consequence of somatic primary affect, there are cases where secondary affect arises in the absence of (indeed, *because of* the absence of) primary affect, and that, in this specific sense, secondary affect need not be secondary after all — and that this can be so even when the secondary state is completely veridical, that is, not a result of any kind of affective/evaluative error, and not involving any misdescription of its target. We will make our initial case for this claim by focusing on olfactory perception (and its absence in cases of anosmia), and then show that the point can be extended to instances of secondary affect without (indeed, because of the absence of) somatic primary affect in other domains as well.

We hope the challenge we pose to the standard conception of secondary affect will bear interest for at least two reasons. The first is that the nature and structure of secondary affect is itself worthy of attention — both because it remains a relatively undertheorized affective dimension of our experience, and also because negative secondary affect is strongly associated with negative impacts on the well-being of those who undergo it that go substantially beyond the negative

outcomes of primary negative affect alone.¹ It is well-known that chronic pain is strongly associated (and more strongly associated than acute pains) with negative outcomes including depression, learned helplessness, and immune system weakness (cf. Hardcastle, 1999). Interestingly, researchers have found that negative secondary appraisals — primarily beliefs about the constancy and permanence of the pain — are among the most important factors ("uniquely accounting for nearly half of the variance predicted by the full model") in the development of chronic pain and its wake of associated negative outcomes (Young Casey et al, 2008, 75). A second potential benefit of our claim in this paper is as a contribution to the understanding of perceptual absence. Despite a growing literature concerned with the existence, nature, and taxonomy of absence perception (see, e.g., Sorensen, 2004; Soteriou, 2011; Farennikova, 2013; Martin & Dokic, 2013; Cavedon-Taylor, 2017; Gow, 2021; Mumford, 2021; Varzi, 2022), there has been to date less philosophical attention paid to affective responses to perceptual absence (but see Richardson, 2022). If we are right in what we say below, this is an omission with potentially significant theoretical consequences.

Before we turn to consideration of anosmia and its connection with secondary affect, a terminological caution is in order. In construing secondary affect as associated with the evaluation of a somatic condition (as opposed to any evaluation at all) above, we take ourselves to be following standard scholarly usage. (Note that, for example, though Fields, 1999 emphasizes the loose relation between secondary affect and stimulus intensity, he never denies that the former is directed on a somatic state.) Of course, no one owns the terminology, and some readers may prefer a broader usage that extends to evaluations of non-somatic conditions, and, therefore, on which our view might appear trivial—it is unsurprising that evaluation of non-somatic states of the world (a journal accepted one's paper, one's favorite sports team lost a match, etc.) can result in veridical affective states even in the absence of primary somatic affect. That said, our thesis will retain its interest even for these readers if understood as the explicitly restricted claim that there can be veridical instances of secondary affect associated with somatic evaluation even in the absence of an antecedently present primary affective somatic state.

2. ACQUIRED ANOSMIA AND SECONDARY AFFECT

¹ For discussion, see Fulkerson and Cohen (2020).

We want to challenge the standard conception of secondary affect by consideration of a particular form of perceptual absence — acquired anosmia, or the loss of the sense of smell. Acquired anosmia is interesting for our purposes because it combines a perceptual absence with powerful secondary affect.

After having lost their sense of smell, anosmic individuals discover that there is something qualitatively absent from their daily lives (that is the ability to perceive olfactory qualities) that they previously took for granted and judged to be of minor importance, but that are severely missed in their absence (Young, 2014). The absence of olfactory response in these individuals is a somatic state in our relevantly ecumenical sense — it is a state of the body (we'll have more to say on what kind of state it is below). Moreover, and unsurprisingly, anosmic individuals typically have a strongly negative affective evaluation of the absence (Zhang et al., 2024). This is just to say that there is secondary affect. After acquiring anosmia, individuals report negative affect in connection with daily practices dependent upon smell such as cooking and personal hygiene, in connection with familial, partner, and social interactions, and in connection with gaining treatment from medical professionals (Stafford et al., 2023). Moreover, the loss of smell has negative consequences in life outcomes familiar from cases of chronic pain. Anosmics show a decrease in their hedonic quality of life (Miwa et al., 2001) and motivational anhedonia (Keller and Malaspina, 2013) that is causally implicated in the further development of depression (Deems et al., 1991). They exhibit high rates of depression that are also correlated with suicide (Kohli et al., 2016). Patients with smell loss report suffering from its negative emotional impact with separate themes of feeling isolated, impairments in their relationship and daily functioning, and the resultant decrease in physical health (Erskine and Philpott, 2019). Furthermore, there is a correlated inability for acquired anosmics to remember and access olfactory memories and self-generate odor imagery. The longer the duration of their smell loss the greater their incapacity for both (Arshamian and Larsson, 2014; Flohr, et al., 2014). The lack of access to these olfactory high level (cognitive) states then generates further negative affect in their lack of access to past pleasant smell experiences (e.g. the smell of their partner/child, their favorite perfume, aromas of their favorite food or wine, and autobiographical childhood memories). Significantly, and just as with chronic pain, the degree of lower quality of life and negative affect in acquired anosmia is directly related to their negative cognitive evaluation of the sensory impairment, as well as the duration and chronic nature of the

smell loss (Neuland et al., 2011).² Moreover, those self-reporting as suffering from anosmia are thought to account for a non-significant minority of the total population who have smell loss, with an estimated range of 15-22% of the general population with some degree of olfactory sensory impairment who are unbothered and/or don't notice their lack of olfactory perception (Croy et al., 2014). Thus, anosmics who suffer from secondary negative affect do so based on their appraisal that olfactory sensory states are absent; they find their inability both to perceive smells and to recollect and imagine odors significantly distressful.

In these respects, acquired anosmia contrasts sharply with congenital anosmia. Congenital anosmics also lack primary olfactory affect because of their incapacity for olfactory transduction. However, and presumably because this does not mark a contrast with memories of their past experiences, such individuals — who are often not diagnosed until mid-childhood or later — do not evaluate their lack of primary affective perceptual states negatively. Congenital anosmics do not report negative affect from the lack of olfactory transduction. They do not treat their condition as an impairment. Indeed, most congenital anosmics are generally indifferent to their incapacity to smell, and some even view it as a positive that allows them to endure stinking situations other cannot stomach. Indeed, their lack of empathy towards those with acquired smell loss can lead to friction between the two (congenital and acquired) anosmic communities (Totaro and Wainwright, 2020). That said, congenital anosmics report negative impact of their condition on their social lives: they complain of having to explain their condition, lack of understanding of their condition within the general populace, as well as in instances where others normally enjoy the sensory qualities of eating or drinking to which they either must feign enjoyment, explain their condition, or avoid such interactions (Totaro and Wainwright, 2020); in some instances they also view negatively their inability to appreciate aesthetic properties of environmental stimuli (Taffala, 2013).³

² The connection between secondary affect in chronic pain cases and acquired anosmia is further supported by preliminary findings reported by Kelly (2024) to the effect that the same psychotherapeutic interventions that are effective for chronic pain management are now being employed with some success to treat anosmic patients as well.

³ In addition to acquired and congenital anosmias, researchers sometimes use the term 'parasomnia' to pick out a heterogeneous collection of olfactory perceptual disorders including a complete incapacity to smell, inability to smell some but not other odors, and the capacity to perceive odors but with distorted olfactory qualities. These distorted olfactory perceptual experiences are usually of a negative nature (e.g. their olfactory experience of normal odorants reek of burnt, fecal, or decay olfactory qualities). Thus, this group suffers negative primary affect in their incapacity for

Having set out the contrast between acquired and congenital forms of anosmia, we now want to focus on acquired anosmia, in particular, to illustrate just how fully primary and secondary affect come apart. It is antecedently clear that there can be cases of primary affect without secondary affect: for example, instances of short-lived, non-chronic pain can be negatively valenced (hence there is primary affect) but too quick to allow evaluation (hence there is no secondary affect). Acquired anosmia brings out vividly that primary and secondary affect dissociate in the opposite direction as well. As we have said, in such cases, the subject forms a strongly negative evaluation of her own somatic condition. The strong negative valence associated with this evaluation justifies construing it as a type of affective reaction to the underlying somatic condition; and its source in psychological evaluation, reflection, and anticipation of future prospects (all possibly involving quite elaborate inference) qualifies it as an instance of secondary rather than primary affect. There is, then, negative secondary affect. However, unlike paradigm cases of negative secondary affect such as chronic pain, here the somatic state the evaluation is directed on is a perceptual *absence* of a particular kind.⁴ Consistently with construing it as a somatic state of some kind of other (see fn. 4), we might think of this perceptual absence in two ways: either in strictly privative terms, as the non-occurrence of a perceptual state, or as a genuinely present perceptual state that represents absence.

normal olfactory transduction, pervasive distorted negative olfactory experiences (food smells and tastes burnt/fecal), as well as their negative secondary affect in their slow recovery and disgusting smell experiences. They similarly struggle with the social issues shared by populations of congenital and acquired anosmics.

⁴ Is it fair to treat such a perceptual absence as a somatic state? We think so. It is worth noting that anosmic subjects still undergo the usual bodily processes that causally support olfactory perception in normal subjects — for example, somatosensory states within the nose, motor sensory respiratory states required for sniffing (and breathing more generally), as well as trigeminal stimulation (Young, 2024). Given this, it seems well within bounds to think of the relevant states as somatic in our catholic sense. The crucial difference, of course, is that in anosmic subjects these states do *not* support olfactory transduction — hence they also count as states of perceptual absence.

Further question: does this description of the relevant states undermine our contention that secondary affect in acquired anosmia fails to result from the evaluation of a primary affective state? It does not, for two reasons. First, it would seem that the target of evaluation underlying negative secondary affect in acquired anosmia is the absence of olfactory sensory response, not the present causal processes that in normal cases support such responses but fail to in anosmics. Second, these states cannot be presumed as a general matter to have antecedent primary olfactory affect. (We thank Barry Smith for discussion on this point).

⁵ On this contrast in thinking about perceptual absence, see, for example, Sorensen (2004), Farennikova (2013); on the contrast with respect to olfaction, see Young (2014), Roberts (2016).

Crucially, however, on either of these two conceptions, the evaluation stage will look substantially unlike its counterpart in canonical cases of secondary affect. On the first, privative, conception, evaluation targets a non-occurrence, which presumably cannot have primary affect. On the second, non-privative, conception, evaluation targets a present perceptual state, though one that represents an absence; but it's not at all clear why we should think that that present absence-representing perceptual state bears primary affect (recall that there is no primary affect in the analogous state in congenital cases).⁶ Hence, on either conception, it will be untrue that secondary affect must amount to the application of appraisal to a somatic state with primary affect already in place.⁷

Here, secondary suffering does not arise as a downstream consequence of negative affective qualities of primary sensory transduction, but rather from the *lack* of the latter.

3. BEYOND SMELL

We are now in a position to see that the point we are making generalizes well beyond olfaction. Acquired anosmia brings out the possibility of secondary affect arising in the absence of — indeed, because of the absence of — primary somatic affective states of a particular sort. However, it is plausible that absences stemming from acquired deficits of other perceptual primary affective states could be the targets of similar negative evaluation, and so could give rise to cases sharing a structure with the olfactory examples we have pointed to. For example, it is easy to imagine negative secondary affect stemming from a loss of taste or hearing (say, due to illness or aging that is directed on absence, as well as the resultant diminished capacity to remember or imagine these target sensory states).^{8,9}

⁶ Barry Smith (personal correspondence) suggests that we might think of the state as bearing primary affect on the ground that patients report a visceral sense of loss (cf. Burges Watson, et. al. 2021). That seems to us an excellent reason for supposing that there is negative affect in such cases, but not a reason for taking that negative affect to be primary rather than secondary.

⁷ The claim that this route to secondary without primary affect arises in cases of acquired but not congenital anosmia invites the further question (raised by Casey O'Callaghan, p. c.) whether secondary affect depends *diachronically* on primary affect — so that it could not arise in a creature entirely without primary affect, that is, one with a kind of generalized sensory asymbolia. We have no official view on this further matter.

⁸ See for instance O'Callaghan (forthcoming) on the disvalue of losses of perceptual modalities.

⁹ One can imagine yet further cases arising not from losses of our capacities but from changes in the world that make unavailable primary affective responses we might otherwise have had. An example comes from Ned Beaubman's satiric

For that matter, one can imagine coming to negative secondary evaluations of losses of all kinds (this is unsurprising: we tend to evaluate losses negatively!), including losses of non-perceptual, and even non-psychological, capacities. This applies even to capacities whose ordinary exercise prior to the loss is without primary affect altogether. Prior to a loss, one may have no affective reaction at all to, say, walking or performing simple arithmetic; nonetheless, one might understandably come to a strongly negative evaluation of the loss of one's capacities for those activities due to injury or disease. Here, again, one's secondary affect is directed on an absence rather than a presence — and, moreover, here, on an absence of something that lacked primary affect even when it was present.

If we are right, these cases provide further examples of secondary affect had in the absence of antecedently present primary affect.

4. VERIDICALITY

There is a simpler way to the conclusion that there can be secondary affect in the absence of antecedent primary affect, and which, one might therefore think, threatens to trivialize what we have said above. It is worth considering this simpler route, and then comparing it against the perceptual absence involving route we have used to argue for our conclusion, partly as a way of clarifying what is distinctive about our cases — namely, that, in our cases, secondary affect can arise without primary affect even when the former is fully veridical.

The simpler route to secondary without primary affect we have in mind starts from the observation that secondary affect is generally understood as affect arising from evaluative thoughts, beliefs, emotions, and the like. On its face, it seems perfectly clear (without reference to cases of perceptual absence such as those we have enlisted) that such evaluative mental states could be had in the absence of primary affective states for the simple reason that perceptual transduction and

eco-catastrophe novel *Venomous Lumpsucker* (Soho Press, 2022), in which a foodie character mourns the climate change-induced waning of flavor in the world's foodstuffs, and seeks out a medication that will prevent him from engaging in evaluation of this change, hence from undergoing a secondary affective harm in the absence of/because of the absence of primary affect: "The Inzidernil didn't stop him tasting what he was eating. And it didn't fool him into thinking that what he was eating was delicious. Rather, it took away his evaluative response. He no longer felt any disappointment or resentment or grief. He no longer compared the meal against his memory of what it should have tasted like. It just didn't bother him" (Beauman, 2022, 53).

evaluation are distinct, dissociable capacities. For example, it's easy to imagine a patient obsessively worried about recurrence of heart attack who is, as it were, poised for rapid negative secondary evaluation as a hair-trigger response: when she experiences very mild indigestion, a muscle twitch, or an unexpected tap on the shoulder, she immediately fears the worst, and undergoes the familiar cascade of negatively evaluative thoughts, beliefs, and emotions — that is, she undergoes negative secondary affect, but in the complete absence of primary pain/painfulness. (On some descriptions, this pattern of response is present in patients with conditions such as PTSD (Hayes et al., 2012; Fonzo, 2018) and allodynia (Troels & Finnerup, 2014; but see note 9.))

Do such relatively straightforward examples of secondary without primary affect obviate what we have said above? They do not. While we are happy to agree that such cases provide one way of demonstrating the possibility of secondary without primary affect, we nonetheless believe that the absence-involving cases we have put forward are structurally distinct, and bring out an importantly different form of secondary affect. In particular, and unlike the cases underlying the simpler route to secondary without primary affect, the secondary affect arising in our cases does not crucially involve misrepresentation at any stage. (NB: the feature of our cases that we are highlighting in distinguishing them from simpler cases of secondary without primary affect is that the *evaluative, secondary* state veridically characterizes its primary target; we do not claim that in such cases the primary state is in any way distinctively veridical.)

The case of the patient fearful of heart-attack (*mutatis mutandis*, PTSD/allodynia) does essentially involve misrepresentation at the evaluative stage. It is essential to the structure of the case as one that involves secondary but not primary affect that the patient's secondary evaluation erroneously conceives of its somatic target in taking it to be both (i) an early stage of heart attack rather than something more innocuous such as mild indigestion, and (ii) negatively valenced rather than not. So understood, secondary affect does indeed occur without accompanying primary affect in the example, but only as the result of an error: the secondary affect arises exactly because evaluation misrepresents the situation as one in which there is a (negative) primary somatic affective state. One way to see this is to note that, in this type of case, secondary affect can be expected to persist only until the misrepresentation underlying it is corrected: once the patient realizes that she is undergoing only an innocuous experience this will halt the runaway evaluation, and secondary affect will fade. And, insofar as such correction will normally happen relatively

quickly, one expects that the secondary affect involved in any single case of this sort will be correspondingly short-lived.¹⁰

None of this is applicable to our cases of secondary without primary affect based on perceptual absence, such as arise in acquired anosmia. In acquired anosmia evaluation does not misconceive its target as something it is not. Evaluation construes its target as the absence of an anticipated olfactory response, and its target *is* an absence of olfactory response. Evaluation construes its target (an absence) as unvalenced, and its target *is* unvalenced. In these respects, evaluation rests on neither illusion (misconstruing a target as something it is not) nor hallucination (representing a target when there is not one).¹¹ On the contrary, secondary affect rests on a veridical, rather than erroneous, representation of its target. And because there is no error here whose correction would halt secondary evaluation, secondary affect arising from the loss of smell (or other losses) is predictably more long-lived.

In short, what is distinctive about the cases we have highlighted by reference to acquired anosmia and other types of loss is that they demonstrate not only that there can be secondary affect without primary affect (something that can be shown by the simpler route considered in this section), but that none of this depends on evaluative error — that is, that there can be secondary without primary affect even when the secondary affective state is wholly veridical about its target.

5. MISCHARACTERIZATION?: ARE OUR CASES INSTANCES OF SECONDARY AFFECT?

One might worry that our case for the possibility of secondary affect without primary affect rests on mistaken characterizations of the examples. This contention depended largely on uncovering a shared structure between our cases of interest (such as acquired anosmia) and canonical instances

¹⁰ Of course, conditions such as PTSD and allodynia involve a temporally extended series of individual evaluative episodes; the (long-lived) series itself, that is, the condition itself, is subject to negative evaluation that *does* survive the correction of errors about the evaluation in any single episode. We suggest that the significant negative consequences observed in these conditions is, indeed, linked to this distinct appraisal of the temporally extended series/condition.

¹¹ For reasons indicated above (cf. note 5) this admits two descriptions. Either there is a target (the absence) and evaluation construes the target as an absence, or there is no target, and evaluation is aimed at the lack of a target. On neither of these descriptions should we say that evaluation hallucinates a target that is in fact not there.

of secondary affect (such as chronic pain). Specifically, we urged that both sorts of cases involve the following three elements, each of which leads causally to the item that follows it:

- (i) an underlying perceptual condition (in the case of chronic pain, a primary affective pain state; in the case of anosmia, an absence of olfactory response altogether);
- (ii) the cognitive evaluation of underlying perceptual condition (i) that itself has a negative valence; and
- (iii) a subsequent cluster of negative consequences including social isolation, depression, motivational anhedonia, and impact on physical and mental health.

The objector we are imagining will concede that something like elements (i)-(iii) are all present in cases of acquired anosmia (etc.), but will urge that the true structure of this and all related cases differs from that present in genuine instances of secondary affect. She will suggest an alternative description of acquired anosmia on which the underlying primary condition causes the negative outcomes all by itself, and evaluation is directed on (not the absent primary affective state, but) the ensuing negative life outcomes. (Schematically, on this redescription, in such cases (iii) is caused by (i) rather than (ii), and (ii) is properly understood as directed on (iii) rather than (i).) On this alternative construal of the anosmia case, the analogy with the structure in canonical instances of secondary affect may seem sufficiently strained to warrant rejecting our characterization of it as an instance of secondary affect (*a fortiori*, as an instance of secondary affect without primary affect).

We concede that it is difficult to decide between these two descriptions of the cases in practice (unfortunately, the largely self-report methods employed in by Neuland et. al. (2011) and others don't pull apart the descriptive hypotheses we are considering). One reason for preferring our favored construal (in at least some instances) comes from Croy et. al.'s (2014, 190) claim that significantly lower Quality of Life scores in hyposmic patients in comparison to anosmics derive from the hope for recovery present in the former population that thereby impedes their ability to form coping mechanisms to handle their negative secondary affect. Just as in the case of chronic pains (recall the finding, reported in section 1 above, that patients' evaluative beliefs are among the most important factors in explaining the cluster of negative outcomes associated with chronic pains), this claim, if correct, supports our view that the causal pathway to element (iii) runs through

(ii) rather than directly from (i). That said, the contrast with congenital anosmia gives an even stronger reason for favoring our preferred description of the case over the alternative on offer. If, per the alternative conception, the cause of negative life consequences for acquired anosmia were the absence of olfactory response rather than the cognitive evaluation of the latter (that is, if (iii) were caused directly by (i) rather than from (ii)), one would expect to see those negative life outcomes at similar rates in congenital anosmia (where there is also an absence of olfactory response but no comparative evaluation of that absence against past experience). However, this prediction is not borne out: as we have noted, such outcomes are largely absent in congenital cases.¹² Moreover, in the comparatively rare instances where congenital anosmics do experience something akin to element (iii), their judged negative affect is precisely directed upon (iii) itself rather than (i). As we noted above, while acquired anosmics suffer a grief-like response to their loss of smell as such, congenital anosmics do not generally consider their inability to smell an impairment.

We turn now to a related but distinct concern about mischaracterization that rests on the idea that the target of cognitive evaluation in our key cases (e.g., acquired anosmia) is not, as claimed, *an underlying perceptual condition* (in these cases, a condition of absence), but *an event of loss* of a perceptual condition. For example, perhaps what is negatively evaluated in acquired anosmia is not the absence of olfactory response, but the event of having lost the capacity for such responses. If so, then, once again, one might think that the structure of the cases we've emphasized is insufficiently similar to canonical instances of secondary affect (where the target of evaluation really is the state of an underlying perceptual system) to warrant extending the notion to them.

We are unmoved by this objection. To begin, we're not entirely clear that it makes sense to distinguish between an absence and the event of a loss in the way envisaged by the objector;¹³ but

¹² It may be additionally worth emphasizing that our case for the possibility of veridical secondary affect without primary affect does not require that our preferred description applies to *every* case in the neighborhood; all we need is that there is, or even could be, *a* case that has our kind of structure.

¹³ Besides general metaphysical worries about the possibility of distinguishing between an absence and the corresponding loss, one might worry that the contemplated distinction is in tension with self-reports of acquired anosmics, according to which the event of loss itself is not typically as well-delineated as the objection envisages (Croy et al., 2014; Erskine & Philpott, 2020). Though some cases due to head trauma are more easily identifiable as distinct events, cases due to infections are less so; in the latter sort of case there is often a gradual waning of smell over time, and a gradual noticing of the change, making it difficult to delineate a single event of loss.

suppose, *arguendo*, that this distinction can be sustained. Suppose a subject undergoes an event of losing her olfactory perceptual responses, and further that her negative evaluation of this loss event amounts to a secondary negatively affective state with the negative consequences we have discussed. If this negative secondary affect is, in her case, a matter of negatively evaluating the loss event as such, then we claim that the negative secondary affect should persist in her even if she subsequently undergoes a restoration event. After all, even if this subject has her olfactory capacities restored at t_2 , the event of the loss at t_1 is still available for evaluation at t_3 ; moreover, it's hard to see why (barring new information or a revision of her evaluation) she should assess the loss event itself any less negatively at this later time than she had earlier (though of course she will also be able to add to the story at t_3 consideration of the separate restoration event at t_2). But if negative evaluation of the loss event undertaken prior to t_3 were sufficient for negative secondary affect (and its attendant negative consequences) prior to t_3 , it would seem that negative evaluation of the loss event undertaken after t_3 should be sufficient for negative secondary affect (and its attendant negative consequences) after t_3 (again, barring a change of mind). Therefore, this proposal predicts that the negative secondary affect associated with losses (and its effects on life outcomes) should generally persist even after those losses are restored. That prediction is at odds with subject reports (Totaro and Wainwright, 2023).

A similar worry might be raised that acquired anosmic's negative affect might not be derived from a perceptual absence of instances of olfactory sensory transduction states, but rather a negative evaluation of their lack of a perceptual capacity *simpliciter* — that is that they have lost their sense of smell. While we think that secondary affect can arise merely in relation to the loss of a capacity (as noted in section 3), we don't think this construal captures the more prevalent structure of negative affect in cases of acquired anosmia as reflected in subject reports: when acquired anosmics report experiencing negative affect from their general loss of a capacity, this is typically mediated by their somatic evaluation of particular perceptual absences of olfactory qualities. If their complaint reflected just the lack of a capacity, their experience should be more akin to congenital anosmics who are unbothered by the general lack of a capacity; but this is not borne out in the literature and is not in keeping with their grief-like response to the loss of primary sensory transduction states (Totaro and Wainwright, 2023). Moreover, our construal that in most instances of acquired anosmia the secondary affect structurally progresses from (i-iii) based on perceptual

absences of olfactory qualities is further solidified by considering their reported deficit in recollecting and imagine smells.

Finally, let us consider a third objection concerning our characterization of the cases. We have claimed that, in the cases of interest, the perceptual absence of experiencing sensory qualities of smells generates negative secondary affect. Yet, many anosmic patients report being additionally troubled by their inability to recollect or imagine smells. Their negative affect might thus be characterized as resulting from an incapacity to remember past olfactory experiences or generate olfactory mental imagery. Though these patients do claim to evaluate negatively their perceptual conditions, one might think that an important (perhaps the most important) source of their negative affect is the evaluation of the absence of sensory qualities within a cognitive state such as memory or mental imagery. Thus, the objector might argue that anosmics have *tertiary* negative affect — one in which the principal negative appraisal targets a cognitive level state rather than an underlying perceptual state, and therefore differ in fundamental ways from canonical instances of secondary affect (e.g., chronic pain). Without weighing in on the details of debates about sensory memory retrieval, and so as to allow for differing stances on whether memory is more similar to perception or cognition, we can consider two possible forms the objection might take. Either (a) the negative affect arises from the inability to remember (retrieve or reconstruct) past cognitive states about smells, whereby it is the absence of memories themselves that generates the negative affect and thus the disanalogy with our characterization of the progression (i, ii, iii), or (b) the negative affect arises from the absence of a sensory component about the olfactory quality of a remember smell experience, such that the ability to remember smell experience is diminished relative to the sensory component that would be derived from the initial sensory state that is (i).

Once again, we find this objection unpersuasive (in either form). First, while we accept that anosmics' subjective reports display a strong theme of suffering caused by a resultant inability to remember or imagine smells, the force of the disanalogy on reading (a) depends upon the assumption that olfactory memory and imagery is primarily derived from cognitive (representational) states as opposed to perceptual states. However, given that this assumption is hotly controverted (Young, 2019 2024), we should not accept the objection without further evidence or argument. Second, objection (b) reinforces our characterization by highlighting that even in instance of olfactory memory impairment (i) is the target and causal source of (ii) the

negative affect. Lastly, and more importantly, it appears that the consideration being raised about the loss of smell (on either reading (a) or reading (b)) is equally applicable to cases of chronic pain: here, too, secondary affect might be recharacterized as arising from third order states appraising cognitive representations rather than the sensory state. Overall, then, we see no significant disanalogy here that pulls acquired anosmia apart from canonical instances of secondary affect such as chronic pain, or that should, therefore, disqualify the condition from counting as a case of secondary affect.

6. CONCLUSION

What is secondary about secondary affect? We have argued that anosmia provides an example of secondary affect that is structurally analogous to the paradigm case of chronic pain, yet in which negative affect is grounded in a perceptual absence rather than in an antecedently present affective perceptual state. Veridical secondary affect can thus occur without antecedently present primary somatic affect.

Acknowledgements

We are grateful to Murat Aydede, Elvira di Bona, Matthew Fulkerson, Mohan Matthen, Casey O'Callaghan, Barry Smith, and all the participants of the Olfactory Philosophy Workshop at UNR Lake Tahoe for helpful discussion that has improved this paper.

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