

Narrow Content and Parameter Proliferation*

Ori Simchen

Abstract

A centerpiece of Juhani Yli-Vakkuri and John Hawthorne's *Narrow Content* (OUP 2018) is the parameter proliferation argument. The authors consider a series of cleverly constructed cases of pairs of corresponding thoughts of qualitatively identical twins and argue that divergence in truth value for such thoughts forces the internalist to admit novel alethic parameters for semantic evaluation that are not independently motivated. I argue that the internalist will resist this argument by denying that such pairs of thoughts diverge in truth value. I then argue that the construal of content presupposed by the argument should be rejected or amended by the internalist on independent grounds. I end in a more diagnostic vein by considering why parameter proliferation might have seemed pressing for internalism to begin with.

1 Introduction

The question whether thoughts have narrow content is tangled. It is made especially so by layers of theoretical embedding that can make it hard to see whether what's at issue is a posit of a theoretical model – a theoretical representation – or what the representation is meant to model or represent. Contents, narrow or wide, are themselves theoretical representations of the significance of sentences and certain aspects of mental states and episodes. It is sometimes assumed that the notion of content is pre-theoretical. This is testimony to how entrenched content has become in contemporary philosophical thinking about linguistic and mental phenomena. But the very idea that what accounts for the significance of sentences is also what is true or false, which is also what provides objects for cognitive attitudes such as belief, is certainly *not* a pre-theoretical idea. Nevertheless, along with the rest of what might

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be called *the content program* in the philosophy of mind and language, I will take the notion of content itself for granted without dwelling on its theoretical credentials.¹

The main concern in Yli-Vakkuri and Hawthorne’s recently published *Narrow Content* (2018) is to argue against the existence of a theoretically interesting assignment of narrow contents to thoughts, an assignment determined only by goings on inside the thinker in some highly rarified sense. The authors outline desiderata for a narrow content assignment being theoretically interesting and marshal various considerations against their fulfillment. To put my cards on the table at the outset, I share Yli-Vakkuri and Hawthorne’s skepticism about narrow content. My own take on problems surrounding narrow content is different from theirs, less focused on semantic matters and more focused on metasemantic ones.² Nevertheless, I share their externalist leanings. My concern here is with Yli-Vakkuri and Hawthorne’s so-called parameter proliferation argument, a centerpiece of their book. Testimony to just how central the argument is to their overall project is the amount of discussion it has already generated.³ My first worry about their argument is that a fairly standard variety of internalism is immune to it. My second worry is that the argument presupposes a construal of content that should be rejected or amended by the internalist on independent grounds and would thus be cast aside as failing to engage with internalism as such.

2 Parameter Proliferation

Yli-Vakkuri and Hawthorne construe contents as, or as represented by, functions from indices to truth values. Indices are sequences of alethic parameters such as world, time, and agent, themselves theoretical stand-ins for various aspects of speech and cognitive situations. Whether or not contents are to be identified with those functions or associated with them in some other way is a matter on which Yli-Vakkuri and Hawthorne remain officially neutral. A main line of argument in *Narrow Content*, the parameter proliferation argument, is a succession of cleverly constructed *Doppelgänger* cases illustrating the ever-increasing need to enrich the sequence of alethic parameters in representing narrow contents within such a framework beyond theoretical plausibility. In Chapter 2 Yli-Vakkuri and Hawthorne argue from the truth conditionality of narrow content (more on that in a moment) and the possibility of “*Doppelgänger*-related thoughts” as per a given sequence of alethic

¹But see Simchen (2021) for some relevant discussion.

²See e.g. Simchen (2012: 4.4).

³See e.g. Chalmers (2018), who in reviewing the book is focused almost exclusively on the parameter proliferation argument, Sawyer (2019, 2020), and Hattiangadi (2019).

parameters, to there being an *additional* alethic parameter responsible for the divergence in truth value. *Doppelgänger*-related thoughts are corresponding thoughts of qualitatively identical twins that nevertheless differ in truth value. As the cases of *Doppelgänger*-related thoughts proliferate, so do the parameters needed to account for the divergence in truth values. As a quick illustration, the hypothesis that indices consist only of a world parameter is called into question by Putnam’s (1975) original case of Oscar and Twin Oscar inhabiting the same world w and thinking thoughts expressible by ‘Water contains hydrogen’. To account for Oscar’s thought being true at w while Twin Oscar’s thought is false at w , the internalist is forced to add another parameter to indices, an agent parameter. Next, the hypothesis that indices consist only of a world parameter and an agent parameter is called into question by the case of Loop Lady, who inhabits a world w_{ER} of eternal recurrence and thinks a thought expressible by ‘Water contains hydrogen’ on Earth during one epoch and on Twin Earth during another epoch. The divergence in truth value despite the qualitative backdrop of the thought being the same on both occasions then forces the internalist to add a time parameter to indices. Next, the hypothesis that indices consist only of a world parameter, an agent parameter, and a time parameter is called into question by the case of time-traveling Loop Lady, which forces the internalist to add a personal time parameter to the mix. And so it goes.

An important requirement for the efficacy of this argument is that at each stage the internalist accept intuitive verdicts of truth value divergence for corresponding thoughts of qualitatively identical twins (or qualitatively identical phases or parts of a single thinker). Dialectically this is somewhat surprising because internalist intuitions tend to run counter to intuitive verdicts of truth value divergence in *Doppelgänger* cases.⁴ The typical internalist reaction to Putnam’s original case of Oscar and Twin Oscar is to say that there is an important sense in which what the twins say or think is exactly the same, an invariance that emerges from cognitive interactions with the surfaces of the phenomena at issue that are not informed by divergence in the underlying chemical nature of the relevant substances. Intuitive verdicts of divergence in truth value for the likes of ‘Water contains hydrogen’ as spoken or thought by each of the twins are then to be explained away somehow, perhaps by pinning them on a different aspect of content sensitive to external factors (wide content) or in some other way. But Yli-Vakkuri and Hawthorne’s parameter proliferation argument targets a more concessive internalist who accepts those intuitive verdicts of divergence in truth value at face value.

⁴A clear example of this internalist tendency is found in Segal (2000).

3 Truth Conditionality

The constraint of truth conditionality is the first structural constraint offered by Yli-Vakkuri and Hawthorne on the assignment of narrow contents to thoughts being theoretically interesting. It might have been simply the demand that narrow contents be associated with truth conditions. But this isn't all that is required:

Truth conditionality, as we understand it, requires more than that a content assignment necessarily assigns to each thought a content that has a truth condition... What truth conditionality requires is that, necessarily, the content assigned to a thought determines the genuine truth value of the thought at the index of the thought. (64)

The key phrase here is “genuine truth value”. What it does, in effect, is foreclose engagement with a more committed internalist who doesn't indulge intuitive verdicts of divergence in truth value for corresponding thoughts of qualitatively identical twins. The parameter proliferation argument targets an internalist who accepts those verdicts of truth value divergence as requiring additional parameters in the evaluation of such thoughts. Thus, for example, the thought Oscar would express by ‘Water contains hydrogen’ comes out true relative to a world centered on Oscar because of the chemical composition of the stuff surrounding Oscar, which is H_2O , whereas the corresponding thought of Twin Oscar comes out false relative to a world centered on Twin Oscar because of the chemical composition of XYZ.

The contested status of intuitive verdicts of truth value divergence opens up a straightforward internalist line of response to the parameter proliferation argument: Appearances to the contrary notwithstanding, there's no real possibility of corresponding thoughts of qualitatively identical twins differing in truth value – no possibility of *Doppelgänger*-related thoughts.⁵ Yli-Vakkuri and Hawthorne address this type of objection in general terms as follows:

Is it metaphysically possible for two distinct thoughts to be *Doppelgänger*-related to each other? It's hard to deny that it is. There is a broad consensus that Putnam's (1975) Twin Earth scenario is metaphysically possible, and close relatives of that scenario, which are presumably also metaphysically possible, contain *Doppelgänger*-related thoughts. (69)

In general a denial of a metaphysical possibility is widely regarded as incurring a heavy burden of proof. But there are plausible internalist grounds for denying

⁵This internalist response is highlighted by Sawyer (2019, 2020), who correctly points out that Twin-Earth-style scenarios are amenable to internalist interpretation. See also Hattiangadi (2019).

the possibility of *Doppelgänger*-related thoughts, grounds that go beyond specific doctrinal details. The broad consensus Yli-Vakkuri and Hawthorne are appealing to is the possibility of Oscar and Twin Oscar each thinking something that would be expressed by ‘Water contains hydrogen’. So we have the possibility of corresponding thoughts of qualitatively identical twins. But a demanding internalist would argue that such a possibility does not include divergence in truth value. After all, by internalist lights those thoughts are determined semantically by internal goings on in Oscar and Twin Oscar, respectively. As Oscar and Twin Oscar are qualitatively the same, and the respective roles those thoughts play within them are the same, there is nothing to distinguish the thoughts semantically. So they are true or false together. From this internalist standpoint, while there might indeed be corresponding thoughts of qualitatively identical twins, such thoughts could not differ in truth value.

This internalist’s attitude towards a scenario of corresponding thoughts of qualitatively identical twins diverging in truth value is analogous to an origin essentialist’s attitude towards a scenario of Elizabeth Windsor originating from the Trumans and being raised by them. There is no such possibility for Elizabeth, according to the origin essentialist, even if she could have been raised by the Trumans. The origin essentialist then incurs a diagnostic burden of proof: explain why it nevertheless *seems* possible for Elizabeth to have originated from the Trumans. Diagnostic efforts in this direction certainly have their work cut out for them.⁶ In the case before us, the internalist also incurs a diagnostic burden of proof: explain why it nevertheless seems possible for corresponding thoughts of qualitatively identical twins to diverge in truth value. One option might include characterizing verdicts of divergence in truth value for such thoughts as arising from a misplaced consideration of truth and falsity for sentences in a public language. Perhaps ‘Water contains hydrogen’ is true in the language spoken by Oscar’s community but false in the language spoken by Twin Oscar’s community. While expressions such as ‘water’ in a public language are semantically sensitive to chemical-doctrinal matters – perhaps through what Putnam characterizes as a division of linguistic labor – this isn’t so according to the internalist for the aspect of content associated with the term that captures the agent’s rapport with surface features of the substance. The internalist could say that the unqualified, categorical thought that water contains hydrogen is really false for both twins, while the more cautiously formulated thought that *some* water contains hydrogen is true for both.⁷ This is but one direction for an internalist to take in explaining away

⁶To get a sense of the difficulty here, see Simchen (2012: Ch. 1).

⁷Segal (2000: 5.1), for example, suggests that the concept of water applies to a motley of several natural kinds.

intuitive verdicts of divergence in truth value for such thoughts.⁸

4 Representing Narrow Content

A friend of narrow content might also regard the parameter proliferation argument unsuccessful for a broader methodological reason. The representation of contents as functions from indices to truth values, or the variant in terms of sets of indices, is independently ill suited for the task of modeling the narrow aspect of thoughts, it is now claimed. The argument does not target narrow content *per se* but only a particular theoretical capture of the notion that should be rejected or amended on independent grounds. Here is how to unpack this line of thought.

Consider the following two cases modeled after an example originally devised by Donnellan (1970: Sec. VIII). In the first we have qualitative twins A_1 and A_2 , each seated in a psychology lab in front of a screen showing two squares, one on top of the other. The squares are only distinguishable by their relative positions. (We may imagine the ultimate task in the experiment to report changes in the squares over time, but this is unimportant.) Each twin names the square appearing on top α and the square appearing on bottom β . Each thinks a thought she would express by ‘ α is on top’ and this thought has the same role within each twin’s overall cognitive economy. Unbeknownst to the twins, A_2 is fitted with upside-down inverting glasses while A_1 isn’t. So only A_1 thinks a true thought. A_2 ’s thought is false: the square named α by A_2 is really on bottom. Or so say our externalist intuitions. The internalist, on the other hand, would like to say that there is an important sense in which A_1 and A_2 are thinking the very same thing, a sense in which each is thinking a true thought, a thought to the effect that a certain perceptual two-square scene obtains.

Now compare this case to another case where we have the agent A_1 facing the screen with the two squares as before. At some time $t_1 - \delta$ she names the square appearing on top α and the square appearing on bottom β . At subsequent time t_1 she thinks a thought she would express by ‘ α is on top’. She is then fitted with upside-down inverting glasses and is made to forget everything that transpired in the lab up to that point, effectively undergoing a “reset” to her mental state before $t_1 - \delta$. At a subsequent time $t_2 - \epsilon$ and unaware of the upside-down inverting glasses, she names the square appearing on top α and the square appearing on bottom β .

⁸For a broad outlook on explaining such data from an internalist perspective, see Chomsky (2000), especially Chapter 6, “Language from an internalist perspective”, and Chapter 7, “Internalist explorations”.

At subsequent time t_2 she thinks a thought she would express by ‘ α is on top’. Let’s assume that at t_1 , A_1 is qualitatively identical with herself at t_2 , and that those thoughts have the same role within A_1 ’s overall cognitive economy on each of those occasions. Then A_1 ’s thought at t_1 is true while her thought at t_2 is false. Or so say our externalist intuitions. But the internalist would like to say that there is an important sense in which A_1 is thinking the very same thing twice over, once at t_1 and once at t_2 , and is thinking truly in both cases.

But here is another thing the internalist would like to say. Not only is there a sense in which A_1 and A_2 think the same thing in the first case and a sense in which A_1 thinks the same thing twice over in the second case – it is the *same sense in both cases*. In other words, from the internalist standpoint, whatever theoretical capture is offered for narrow content had better deliver the result that the sense in which A_1 and A_2 are co-thinkers in the first case is the same as the sense in which A_1 co-thinks with herself at two different times in the second case. Case 1 and Case 2 describe possibilities of shared narrow content. What the internalist would like to say is that those possibilities include one and the same narrow content. But the theoretical capture of content presupposed by the parameter proliferation argument does not itself deliver such sameness.

Assume for the first case that everything qualitative about A_1 and A_2 and the role of the relevant thought within each twin’s overall cognitive economy at a certain time (t_1 , say) is the same. So shared narrow content would be represented by a set of indices with an agent having the same qualitative makeup as that of A_1 and A_2 at t_1 at the time of the index. For the second case everything qualitative about A_1 and the role of the relevant thought within her overall cognitive economy at t_1 and t_2 is the same. So shared narrow content would be represented by a set of indices with an agent having the same qualitative makeup as that of A_1 at t_1 and t_2 at the time of the index. To assist in keeping track of these details, let A_x^y represent agent x at time y , let w_{c_1} be the world of Case 1 and w_{c_2} be the world of Case 2, let boldfacing represent qualitative sameness vis-à-vis the thought expressed by ‘ α is on top’ in Case 1, and let underlining represent qualitative sameness vis-à-vis the thought expressed by ‘ α is on top’ in Case 2. Our cases can then be summarized as follows:

$$\begin{aligned} w_{c_1} &: \mathbf{A}_1^{t_1} \mathbf{A}_1^{t_2} \mathbf{A}_2^{t_1} \mathbf{A}_2^{t_2} \\ w_{c_2} &: \underline{A}_1^{t_1} \underline{A}_1^{t_2} A_2^{t_1} A_2^{t_2}. \end{aligned}$$

We now observe that the set of indices representing narrow content in Case 1 need not be the same as the set of indices representing narrow content in Case 2. This

is an inverse problem to the familiar one of intuitively distinct contents – say of ‘Hesperus is bright’ and ‘Phosphorus is bright’ – modeled by one and the same set of indices. In this case we can have what is intuitively a univocal content by internalist lights modeled by distinct sets of indices.

To see this, let $\mathbf{I}^{A_1 \vee A_2}$ be the set of indices representing narrow content in Case 1 and let $\mathbf{I}^{t_1 \vee t_2}$ be the set of indices representing narrow content in Case 2. Assume that indices are triples of world, agent, and time. Let i^\dagger be the index $\langle w_{c_1}, A_1, t_1 \rangle$ and suppose that while in w_{c_1} A_1 is qualitatively the same as A_2 at t_1 , A_1 at t_1 in w_{c_1} is neither qualitatively the same as A_1 at t_1 in w_{c_2} , nor qualitatively the same as A_1 at t_2 in w_{c_2} . Then i^\dagger validates A_1 's thought (and A_2 's thought) that α is on top at t_1 in Case 1. But i^\dagger does not validate A_1 's thought to the same effect at either t_1 or t_2 in Case 2. So $i^\dagger \in \mathbf{I}^{A_1 \vee A_2}$ while $i^\dagger \notin \mathbf{I}^{t_1 \vee t_2}$. Moreover, let i^\ddagger be the index $\langle w_{c_2}, A_1, t_1 \rangle$ and suppose that while in w_{c_2} A_1 is qualitatively the same at t_1 and at t_2 , A_1 at t_1 in w_{c_2} is neither qualitatively the same as A_1 at t_1 in w_{c_1} , nor qualitatively the same as A_2 at t_1 in w_{c_1} . Then i^\ddagger validates A_1 's thought that α is on top at t_1 (and at t_2) in Case 2. But i^\ddagger validates neither A_1 's thought nor A_2 's thought to the same effect at t_1 in Case 1. So $i^\ddagger \in \mathbf{I}^{t_1 \vee t_2}$ while $i^\ddagger \notin \mathbf{I}^{A_1 \vee A_2}$. In short, $\mathbf{I}^{A_1 \vee A_2} \not\subseteq \mathbf{I}^{t_1 \vee t_2}$ and $\mathbf{I}^{t_1 \vee t_2} \not\subseteq \mathbf{I}^{A_1 \vee A_2}$.

The way our two cases exhibit one and the same narrow content invariance isn't captured by this framework all on its own. In this way, the representation of content within the framework fails to deliver what the internalist needs from these cases. The internalist needs a representation of content that delivers narrow content commonality in the first case, and delivers narrow content commonality in the second case, and delivers *cross-case commonality*. Intuitively, we understand exactly what is going on with our two cases. We might suppose that how an agent is qualitatively vis-à-vis the thought that α is on top at a given time should be the same across distinct cases. With this stipulation in place, the total way A_1 is qualitatively at t_1 vis-à-vis the relevant thought would be the same in Case 1 and Case 2. i^\dagger would then validate A_1 's thought at t_1 in Case 2 as well. Such considerations would also ensure that i^\ddagger validates A_1 's thought to the same effect at t_1 in Case 1. But the requirement that how an agent is qualitatively vis-à-vis a given thought at the time of thinking it – what Yli-Vakkuri and Hawthorne call the thought's *qualitative agential profile* or QAP – should be the same across distinct cases, isn't delivered by the framework. It is added as an extra stipulation.

It is in fact hard to see how such an amendment would go without being hopelessly *ad hoc*. The representation of narrow contents as sets of indices is supposed to capture an aspect of content determined only by the qualitative profiles of thinkers. Such representations are supposed to depict the qualitative aspect of a given thought.

Within this framework, for Oscar and his twin to be co-thinkers vis-à-vis a given thought is for there to be for every index that validates the thought with one of the twins as agent, another index that validates the thought that is exactly the same but for the other twin as agent. The set of all such indices, regardless of the identity of the agent as long as the right overall qualitative cognitive configuration vis-à-vis the thought is maintained, thus represents shared narrow content for the twins. The representation in terms of sets of indices is supposed to cash out extensionally what it is for Oscar and Twin-Oscar to be co-thinkers in the relevant way. But it turns out that representing narrow contents as sets of indices in this way requires an additional stipulation as to qualitative sameness for agents vis-à-vis a given thought across worlds, so that each thought gets paired with exactly one possible qualitative profile for its thinker vis-à-vis the thought in question (i.e. one possible QAP). And this idea of pairing each thought with exactly one qualitative profile for its thinker vis-à-vis the thought, so that $A_1^{t_1}$ thinking that α is on top in w_{c_1} is guaranteed to be qualitatively the same as $A_1^{t_1}$ thinking that α is on top in w_{c_2} , is not independently motivated. It sounds like a substantive thesis but lacks the requisite substantiation. As a stipulation about the framework, it seems *ad hoc*.⁹

Indeed, to stipulate that each thought is paired with exactly one possible overall qualitative profile for the thinker vis-à-vis the thought, exactly one possible QAP, is implausibly strong for what the internalist wants narrow content to do. Before all else, the narrow content of a thought is meant to capture how things seem to the thinker “from the inside” in thinking the thought, how they seem purely qualitatively without regard to the underlying natures of the aspects of the thinker’s overall situation that the thinker is thinking about. We have no problem considering such pairs of cases as $A_1^{t_1}$ thinking the thought that α is on top in w_{c_1} and thinking the thought that α is on top in w_{c_2} as cases where things seem exactly the same to the thinker vis-à-vis α being on top even if the total qualitative profile of $A_1^{t_1}$ is slightly different across the cases. Perhaps in w_{c_1} $A_1^{t_1}$ has a slight felt twinge in her left foot she lacks in w_{c_2} . Then presumably the overall qualitative profile of the thinker vis-à-vis the thought in w_{c_1} would not be identical with her overall qualitative profile vis-à-vis the thought in w_{c_2} . And yet the narrow content involved in the two cases should

⁹Yli-Vakkuri and Hawthorne (2018: 30) construe the QAP of a thought as “the maximal way in which the thought relates to the way the agent of the thought is in intrinsic, qualitative respects”. They define narrowness (pp. 34-35) so that for any pair of worlds w and w' with thoughts T and T' , respectively, if the qualitative profile of the thinker of T vis-à-vis the thought (i.e. $\text{QAP}(w, T)$) is the same as the qualitative profile of the thinker of T' vis-à-vis the thought in w' ($\text{QAP}(w', T')$), then it is guaranteed that the narrow content of T is the same as the narrow content of T' . The point here is that the stipulation in the other direction from identity of narrow content across distinct worlds to identity of qualitative profile vis-à-vis the thought is not independently motivated.

come out the same by internalist lights. From the mere distinctness of sets of indices representing narrow content, it shouldn't follow that the represented contents are themselves distinct. By internalist lights, from $\mathbf{I}^{A_1 \vee A_2} \neq \mathbf{I}^{t_1 \vee t_2}$ it doesn't follow that the represented contents aren't one and the same. There is no easy inference from distinctness of content-representations in terms of sets of indices to distinctness of represented contents. But once it is observed that certain qualitative aspects of the thinker may diverge across distinct worlds without disrupting the narrow content of a given thought, the internalist can extend this observation to an analogous variance across distinct times for a single thinker or across distinct thinkers within a single world. By internalist lights, the narrow aspect of the thought that α is on top as thought by $A_1^{t_1}$ and $A_1^{t_2}$ in w_{c_2} can be the same despite the felt twinge in $A_1^{t_1}$'s left foot that is missing for $A_1^{t_2}$. The representation of narrow content in terms of sets of indices requires a principled way of deciding which indices are relevant for how things seem to the thinker of the specific thought that α is on top "from the inside". The prospects for devising such a way seem rather dim.¹⁰

Representing contents as sets of indices has become a staple in contemporary discussions. But when we ponder the background theoretical framework more carefully we notice an easily missed shortcoming of the framework in the form of a univocal narrow content by internalist lights being represented by distinct sets of indices. This shortcoming in the background framework allows the internalist to react to the parameter proliferation argument by regarding it as directed only at an independently flawed theoretical representation of narrow content rather than at narrow content as such. While in each of the cases considered in the argument sameness for the QAP of the relevant thoughts is stipulated, the failure of the background framework to deliver a satisfying construal of narrow content invariance allows the internalist to dismiss the argument as of only limited interest. The parameter proliferation argument requires that at each stage in the unfolding of the argument we have sameness in the QAP of thoughts despite distinctness in their contents. As noted in the previous section, the internalist can respond by denying the possibility of sameness of QAP through distinctness of narrow content. But this denial of possibility may also

¹⁰Fixes may be sought here. It might be thought that narrow content commonality should be construed as something along the lines of $\exists I(I \in S^I)$, where I ranges over sets of indices and S^I is a set of sets of indices $\{\dots, \mathbf{I}^{A_1 \vee A_2}, \dots, \mathbf{I}^{t_1 \vee t_2}, \dots\}$. The idea would then be that it is the existentialization of membership in S^I that captures narrow content commonality both within and across distinct cases. We would then need to revisit the idea that the members of S^I themselves represent narrow contents in order to meet the demand that shared narrow content within cases should also be shareable across cases. But such a fix would require specifying S^I in a way that is genuinely explanatory, and it is far from clear that the set in question can be specified in a way that sheds light on the phenomena. As a theoretical task it seems rather daunting.

be driven by a perceived shortcoming of the background framework for representing contents as sets of indices. The internalist alleges that the verdict of divergence in truth values for thoughts with the same QAP is driven by a misbegotten appeal to circumstantial divergence in the issuing of those thoughts, which is itself but an artifact of the faulty representation of narrow content at issue. It is a general point about each stage in the unfolding of the argument rather than about any particular stage.¹¹ Even for the original case of Oscar and his twin, the idea of adding an agent parameter to indices to account for a divergence in truth value in their respective thoughts that water contains hydrogen seems like a misbegotten idea from this internalist standpoint. How might the addition of an alethic parameter do anything to account for how those thoughts are from the perspectives of their thinkers? If it is insisted that the thoughts diverge in truth value, then the internalist I am imagining will expect the divergence to show up in how things seem to the twins in thinking their respective water-thoughts. But if things seem exactly the same to the twins vis-à-vis the thought that water contains hydrogen, then divergence in truth value will not emerge for the narrow aspect of those thoughts. A divergence in truth value due to the brute distinctness of the twins themselves would be deemed irrelevant from this internalist perspective.

5 Conclusion

I end on a diagnostic note. Why think of parameter proliferation as a pressing issue for the internalist to begin with? Perhaps because narrow contents are commonly associated with a certain fineness of grain due to their perspectival specificity. If there is a particular sloop I want, the internalist would regard the narrow aspect of my want as including my subjective take on the sloop, which is how the sloop appears to me as an object of my want. This specific perspective, captured by the narrow content associated with wanting the sloop, is supposed to be in some way more discriminating than specifying the mere identity of the sloop at issue. There are multiple ways of wanting one and the same sloop, and another way of wanting the sloop might be under a different subjective take. The narrow content associated with this other way of wanting the sloop would then be distinct. Call this kind of fineness of grain *perspectival specificity*.

Yli-Vakkuri and Hawthorne's parameter proliferation argument targets a different

¹¹Arguments targeting particular stages in the unfolding of the parameter proliferation argument tend to focus on the final case of Mirror Man. See, for example, the discussions in Chalmers (2018) and Hattiangadi (2019).

kind of fineness of grain for content, what we might call *circumstantial specificity*. This specificity takes into account various aspects of thinkers' circumstances beyond the world they inhabit. The idea is that given the highly specific nature of narrow content, such contents would be associated with truth conditions that take more into consideration than just some antecedently given set of parameters. This, I have tried to show, in fact goes against the grain of a fairly standard way the internalist conceives of *Doppelgänger* cases. In the wake of the externalist revolution of the 1970s, internalists have been arguing for the theoretical utility of a kind of content that takes less, not more, of the circumstances surrounding the cognitive situation into account. In this way, the total cognitive situation of the agent is supposed to exhibit a kind of invariance under circumstantial variability. While the cognitive situations of Oscar and Twin Oscar in relation to a clear potable liquid in their respective environments may be highly specific in the perspectival sense, they are meant to be circumstantially generic. This is how an internalist can regard those situations as compatible with the complete absence of water under a global illusion that the environment is filled with watery stuff ("Dry Earth").¹² And it is precisely this *lack* of specificity that externalists have decried as suspect ever since the original *Doppelgänger* cases have been put forward.¹³

¹²The Dry Earth thought experiment was introduced by Boghossian (1997). See Segal (2000) for further discussion from an internalist perspective, and Korman (2006) for an externalist reply.

¹³This paper is based on a set of comments delivered at an Author Meets Critics session on Yli-Vakkuri and Hawthorne's *Narrow Content* at the 2019 Pacific Division meeting of the APA in Vancouver. Thanks to Chris Tillman for organizing the session and to David Braun, Dave Chalmers, John Hawthorne, and Paul Pietroski for post-session discussion.

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