

## Chapter 20

# Ignoring the Real Problems for Phenomenal Externalism: A Reply to Hilbert and Klein

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I am indebted to David Hilbert and Colin Klein for their in-depth response (“No Problem”) to my paper “The Real Trouble for Phenomenal Externalists”. In Sect. 20.1, I will explain that their main points are actually red herrings directed at arguments I did not make. In Sect. 20.2, I will show that they do not answer the first argument of my paper, the *internal-dependence argument*, since they focus on examples of their own that are quite different from those in my paper and that are indeed no problem for phenomenal externalists. They also never touch at all on my second main argument, the *structure argument*.

### 20.1 Hilbert and Klein’s Red Herring Points

In my paper, my main stalking horse was *tracking intentionalism*, which is in my view the best version of phenomenal externalism. On this view, the sensory dimension of experience is fully determined by the representation of *response-independent* (but possibly viewer-relative) physical properties of external items. Hilbert, along with his coauthor Alex Byrne, has done much to develop and defend exactly this view in the case of color experience.

In my paper, I clearly laid out (in premises-conclusion form) two arguments against tracking intentionalism: the *internal-dependence argument* and the *structure argument*. But Hilbert and Klein’s main points do not engage with these arguments; they only count against arguments I did not make and in some cases explicitly disavowed in the paper. The first order of business is to clear this up.

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**Hilbert and Klein's first red herring point.** In my "internal-dependence argument", I appealed in a very indirect way to *good internal correlation*: in some cases structural relations among experiences (similarity and difference, equal intervals, proportion) are well matched by structural relations among their neural correlates.

Hilbert and Klein's first red herring point is the topic of their first section, "Perception is Not Magic": "*good internal correlation is not only consistent with tracking intentionalism but to be expected [under tracking intentionalism]*".

This point would only be a criticism of one of my arguments if one of my arguments had had the following extremely simple form: good internal correlation is directly inconsistent with tracking intentionalism (first premise); there is good internal correlation (second premise); so tracking intentionalism is false.

But neither my internal-dependence argument nor my structure argument had this simple form. I did not rely on the premise (which Hilbert and Klein criticize) that good internal correlation alone is directly inconsistent with tracking intentionalism or that tracking intentionalism somehow predicts that good internal-correlation should not obtain. My premises (which I explicitly laid out) were quite different. So, even if it is correct, Hilbert and Klein's consistency point is a red herring.<sup>1</sup>

In fact, as we shall see in Sect. 20.2, Hilbert and Klein actually *accept* the actual premise that I supported using (among other things) "good internal correlation".

**Hilbert and Klein's second red herring point.** In both of my arguments, I also appealed to "bad external correlation": even under optimal conditions, the structural relations among experiences (similarity and difference, equal intervals, proportion) are *not* matched by the structural relations among the (disjunctive) external physical properties that those experiences track.

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<sup>1</sup>It is worth mentioning that Hilbert and Klein's point "*good internal correlation is not only consistent with tracking intentionalism but to be expected [under tracking intentionalism]*" is *not* correct. True, the first part is correct: good internal correlation is *consistent with* tracking intentionalism, in the formal sense of "consistent with". But the second part is incorrect: good internal correlation in my sense is *not to be expected* under tracking intentionalism. In fact, given tracking intentionalism, good internal correlation is *surprising*. So, for instance, on this view, there is no reason to expect that a doubling of sensory intensity involves a doubling of average firing rates. To see this, notice that, on tracking intentionalism, sensation doubles when the representation of external intensity doubles. Further, on tracking intentionalism, anything can represent anything. So, a tripling, or a quadrupling, in internal neural firing rates might represent a doubling in external intensity, provided that it causally-covaries with a doubling in *external* intensity. In fact, a *reduction* in internal firing rates could represent a doubling in external intensity. This is just an instance of the familiar point that there need not be any match between the intrinsic properties of the "content-carriers" and the contents they carry. So, on tracking intentionalism, it would be somewhat of a surprise if a doubling of sensory intensity involves, precisely, a doubling of average firing rates. Likewise, on tracking intentionalism, taste similarity is (presumably) constitutively determined by similarity in the chemical structures represented, as opposed to similarity in internal neural states. It is a radically externalist theory of phenomenology. So, under tracking intentionalism, it should come as a surprise that even under optimal conditions taste similarity is actually *better* correlated with *internal* neural similarity than with *external* chemical similarity. In any case, the issue here is irrelevant, because I did not make the **Simply** inconsistency" argument that Hilbert and Klein criticize.

Hilbert and Klein's second section, "Feeling Curved", is devoted to their second red herring point: 49 50

Are "bad external correlations," in Pautz's sense, a threat? You might think so: you might think that bad correlation means poor tracking. This would be a mistake. 51 52

This point would only be a criticism of one of my arguments if one of my arguments had had simple form: if there is bad external correlation in my sense, our brain states cannot track and thereby represent external properties as tracking intentionalism requires (first premise); there is bad external correlation in my sense (second premise); so our brain states cannot track external properties as tracking intentionalism requires. Call this the *no tracking argument*. 53 54 55 56 57 58

But my actual arguments, the internal-dependence argument and the structure argument, were totally different from this "no tracking" argument. In fact, far from making the simple "no tracking" argument, in my paper I explicitly disavowed it and myself already pointed out that it is fallacious. For instance, I wrote: 59 60 61 62

[E]nsemble activation states might [track and thereby] represent external chemical properties... even if there is "bad external correlation" [in my special sense], that is, even if the resemblances and differences among them are not matched by resemblances and differences among the chemical properties. (Sect. 18.3.2) 63 64 65 66

Likewise, in my Mild-Severe case, I *stipulated* that in both individuals under optimal conditions particular S1 firing rates are perfectly correlated with (track) individual noxious temperatures (inter alia), even if the relationship here is complex and non-linear (and hence an example of bad external correlation in my special sense). 67 68 69 70 71

**Hilbert and Klein's third red herring point.** Hilbert and Klein write: "we believe that Pautz is actually making an additional, distinct argument... that, for many senses, there is no external property to be tracked at all". Call this the *no tracked property argument*. They provide no textual evidence for this belief. There is no place in the paper where I make an argument like this. Indeed in the paper there was plenty of textual evidence that I would *reject* the "no tracked property" argument. (i) Throughout the paper I myself discussed what properties might be tracked in the various senses according to the tracking intentionalist: disjunctive chemical types in the cases of taste and smell, noxious temperatures or types of actual or potential damage in the case of pain, disjunctive properties involving amplitude, frequency and critical bands in the case of sound, and so on. (ii) In developing my "internal-dependence argument", far from suggesting that "for many senses, there is no external property to be tracked at all", I stipulated that the relevant individuals track *the same* external properties. So I did not believe that there are "no external properties to be tracked at all".<sup>2</sup> 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86

<sup>2</sup>Hilbert and Klein attribute two additional arguments to me that I did not make. (i) In their footnote 1, they suggest that, on the basis of neuroscientific research, I complain (against tracking intentionalism) that "there is no simple chemical correlate to PPC activity". Here they are

## 20.2 Do Hilbert and Klein Address the Arguments?

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Hilbert and Klein do eventually address *one* of my two actual arguments, my “internal-dependence argument”. Unfortunately, in discussing this argument, they again make red herring points: for instance, instead of focusing on my actual Mild-Severe counterexample to tracking intentionalism, they dwell on totally different cases of their own that are not in my paper and that are indeed “no problem” for tracking intentionalists. Moreover, they never address my second major argument, the “structure argument”.

### **Klein and Hilbert’s General Response to the Internal-Dependence Argument.**

My internal-dependence argument concerned hypothetical *coincidental variation cases*, in which two individuals from different species track the same response-independent properties but undergo radically different neural processing and exhibit radically different behavioral dispositions. The argument went like this:

- 1 *If* tracking intentionalism is true, then in *every* possible coincidental variation case, the right verdict is *Same Experiences*: the individuals involved have experiences that are identical in sensory character, despite their neural and behavioral differences, because they track and thereby represent the same response-independent properties (*Same Content*).
- 2 But (given the empirical facts) it is much more reasonable to suppose that, in at least *some* coincidental variation cases, the right verdict is *Different Experiences*; call this *internal-dependence*.
- 3 So tracking intentionalism is (probably) mistaken.

Now, according to Hilbert and Klein, which premise of this argument should tracking intentionalists reject?

I was pleased to find that Hilbert and Klein accept premise 2 (“internal-dependence”), allowing that in my Mild-Severe and Yuck-Yum cases the right verdict is indeed *Different Experiences*.

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attributing to me what might be called the “no *simple* property tracked argument”. I did not make this complaint or argument; to the contrary, I stressed that on tracking intentionalism the properties tracked by sensory states at different stages will be enormously *complex*. In my paper, the actual role of the neuroscientific research was to support my premise that in “coincidental variation cases” the right verdict is *Different Experiences*; and, as we shall see, Hilbert and Klein actually *agree* with this premise. (ii) In their section “Feeling Curved”, Hilbert and Klein offer a “reconstruction” of my internal-dependence argument, after quoting from my discussion of a fanciful schematic case. The “reconstructed” argument they attribute to me depends on the claim that a “linear correlation most neatly mirrors the world, and so has the best claim to be the accurate one”. I am not sure I understand this argument, so needless to say I did not put it forward in my paper. The premises of my actual “internal-dependence” argument (clearly laid out in my paper and repeated in Sect. 18.2 of the present response) were quite different.

So, even though (as we saw in Sect. 20.1) much of their discussion is devoted to red herrings about 'good internal correlation' and 'bad external correlation', in the end Hilbert and Klein *agree with* the crucial premise that I actually supported on their basis.

Hilbert and Klein recommend that tracking intentionalists instead reject premise 1: the conditional claim that, *if* tracking intentionalism is true, *then* the right verdict in these cases is instead Same Content and hence Same Experience. In other words, they think that, in all these cases, tracking intentionalists can accommodate the (correct) verdict of Different Experiences, contrary to my contention.

This is immediately problematic, because in these cases I simply stipulated that, whatever the tracking intentionalists says "tracking" consists in (whether it is explained using ideas from Fodor, Tye, Dretske, or Millikan), the individuals in coincidental variation cases bear the "tracking relation" to exactly the *same* response-independent properties and states. Given this stipulation, my premise 1 is guaranteed to be true: *if* tracking intentionalism is true, *then* the right verdict should be (implausibly) Same Content and Same Experience. And Hilbert and Klein do not show that this is an impossible stipulation to make.

**Hilbert and Klein's Mistreatment of the Mild-Severe case.** To illustrate, consider the case of Mild and Severe. Recall that Mild and Severe belong to different human-like species. (Maybe Mild is an actual human and Severe is a member of some human-like species in a different counterfactual situation.) The psychophysical response curve describing the relationship between noxious temperatures and neural response and VAS pain ratings is steeper in Severe than it is in Mild. Nevertheless, I stipulated that their (different) neural responses track the very same response-independent properties of the thermal stimuli. We might call this my *same tracking* stipulation. So if the tracking intentionalist holds that Mild's neural responses track and thereby represent *noxious temperature properties*, as Hilbert and Klein assume (even though it is a controversial issue), then Severe's neural responses track and thereby represent the *very same* noxious temperature properties. In general, my same tracking stipulation entails that Mild and Severe's neural states, although different, can be put into *one-one correspondence*, such that if Mild has a neural state *MI* that tracks noxious thermal information *I*, then Severe has a corresponding neural state *SI* (one involving higher firing rate than *MI*) that tracks the very same noxious thermal information *I*.

Now, since there are obviously some discriminations that are too fine for neurons to make, the relevant thermal information will be less than perfectly precise. In a paper I relied on in my argument, Donald Price (Price 2002) notes that WDR neurons in S1 can differentially respond to a roughly 0.3 °C change in stimulus intensity within a range of painful 45–51 °C skin temperatures, which fits humans' psychophysical performance. Given tracking intentionalism, it follows that a cortical pain state in Mild (for instance) might represent a noxious temperature property like *being roughly between 45.0 and 45.3 °C*, as opposed to a perfectly precise temperature-value. Simplifying somewhat, the full information content might be

something like: *there is a stimulus in my leg roughly between 45.0 and 45.3°C.*<sup>3</sup> 157  
 Clearly, my “same tracking” stipulation entails that Severe has a corresponding 158  
 cortical neural state that tracks *exactly the same* information, at exactly the same 159  
 level of “grain”. These corresponding cortical neural representations in Mild and 160  
 Severe, although they involve different average firing rates, are both tokened under 161  
 optimal conditions when and only when (and because) there is something roughly 162  
 in the 45.0–45.3°C range touching the leg. In general, Mild and Severe have the 163  
 same number of possible cortical neural representations of noxious temperatures, 164  
 and they represent the *same* noxious thermal conditions at exactly the *same* level 165  
 of grain; it is just that they involve different firing rates. I mention this since, as 166  
 we shall see, Hilbert and Klein suggest that the informational contents of Mild and 167  
 Severe’s experiences *differ* in “grain”. They suggest this only because they ignore 168  
 my “same tracking” stipulation. 169

Before I get to that, however, let me clarify why the Mild-Severe case is a 170  
 counterexample to tracking intentionalism. As we have just seen, given my “same 171  
 tracking stipulation”, if tracking intentionalism is true, then the correct verdict in this 172  
 case is evidently Same Content (Same Information) and hence Same Experience. 173  
 Against this, given that pain intensity is in our own case linearly related to neural 174  
 firing rates throughout the pain matrix, and only related in a complex way to a 175  
 number of external parameters (temperature, duration, size), clearly the *simplest* 176  
 and therefore best hypothesis is that pain intensity is directly dependent on firing 177  
 rates in the pain-matrix. Given this standard view in pain-science, and given that 178  
 Severe’s firing rates in the relevant cortical areas *as well as his* psychophysical 179  
 responses increase more rapidly than Mild’s with increasing temperature, the 180  
 sensory intensity of his pains increases more rapidly. In short, the correct verdict 181  
 is Different Experiences, contrary to tracking intentionalism. 182

In accordance with their general suggested response to my internal-dependence 183  
 argument, Hilbert and Klein grant my premise that the correct verdict is Different 184  
 Experience but reject my premise that tracking intentionalism instead implies the 185  
 (mistaken) verdict of Same Content and Same Experience.<sup>4</sup> Instead, they suggest 186

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<sup>3</sup>To say that, on tracking intentionalism, the content of a thermal pain might be something like *there is a stimulus in my leg roughly between 45.0 and 45.3°C* is to simplify in two ways. (i) Since thermal pain depends on stimulus size duration and size as well as temperature, on tracking intentionalism, the real content would be more complex and disjunctive. (ii) Since sensory processes are inherently probabilistic, and the notion of ‘optimal conditions’ is vague, on tracking intentionalism neural states do not have precise contents.

<sup>4</sup>In their note 2, Hilbert and Klein make a number of helpful empirical points about whether area S1 is the neural locus for pain intensity, some of which I made in my paper. But, as I noted in my paper, this issue, however interesting, is not really relevant to my argument. Hilbert and Klein do not question the key finding of Coghill and coworkers that “many cortical areas [not just S1 but other areas – A.P.] exhibit significant, graded changes in activation linearly related to pain intensity” (1999, 1936). (Incidentally, while Hilbert and Klein question my use of “perfect correlation” to indicate this, I think this is a merely verbal issue.) And – most importantly – they *accept* the premise that I supported (in part) on the basis of empirical research, namely that Mild and Severe (who, recall, differ in their firing rates throughout the pain matrix) have pains of different intensities. The

that, on tracking intentionalism, there is a difference in the “grain” of the contents of Mild and Severe’s pain experiences. But, given my “same tracking” stipulation in the Mild-Severe case, how could Hilbert and Klein possibly deny that tracking intentionalism implies Same Content and Same Experience?

What Hilbert and Klein do is to ignore my Mild-Severe case and my “same tracking” stipulation, and instead dwell on totally different cases of their own which are indeed “no problem” for tracking intentionalists because in those cases there are by contrast clear *tracking differences*.

One of their cases is that of Graded and Binary. Graded is like an actual human: he has a mechanism that has many different states  $S1, S2, S3 \dots$  that track relatively fine-grained thermal states. Thus, maybe under optimal conditions  $S2$  occurs when and only when (and because) there is a stimulus *roughly between 46.0 and 46.3°C*. By contrast, Binary has relatively rudimentary mechanism for detecting temperatures, featuring just two states,  $B1$  and  $B2$ . Under optimal conditions,  $B1$  is tokened just in case (and because) the external temperature is *below 45°C* (below the painful range); while  $B2$  is tokened just in case (and because) the external temperature is *above 45°C* (within the painful range). So, in the case of Graded and Binary, by contrast to my case of Mild and Severe, there are radical tracking differences between the individuals involved: for instance, unlike Graded, Binary simply has no state that occurs when and only when (and because) there is a stimulus *roughly between 46.0 and 46.3°C*. Another case that Hilbert and Klein discuss is that of Fine and Coarse. Coarse has states that only track thermal states like *there is a stimulus roughly between 46 and 47°C*. By contrast, Fine has many more states than Coarse, which track smaller temperature differences. So, in the case of Fine and Coarse, by contrast to my case of Mild and Severe, there are again clear tracking differences.

(So, while Hilbert and Klein claim that in their own cases “both representations track the same feature of the world”, this is misleading. What Hilbert and Klein must have meant is that the individuals’ states track (different) features of the same *type*, namely stimulus temperature.)

Hilbert and Klein claim that, if tracking intentionalism is true, then the right verdict in *their own cases* is not Same Content and Same Experience, but Different Content and Different Experience. In particular, if tracking intentionalism is true, then in these cases there is a difference in the *granularity of information*. I agree with this, because, as we have just seen, there are clear *tracking differences* in these cases. (In fact, as I will point out in a moment, in my paper I myself already made the same point about cases like this.)

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“neural locus” issue does not matter to my argument, because it does not matter to the plausibility of this premise. It is true that, in the paper, *for simplicity*, I did sometimes assume the standard view that  $S1$  “plays a special role” (perhaps a special causal role). But I noted that this is controversial and not relevant to my argument. (Contrary to Hilbert and Klein, by “ $S1$  plays a special role”, I did not have in mind the extremely strong claim that mere  $S1$  activity is alone *necessary and sufficient* for pain, and never suggested that this strong claim is established merely by the finding of linear *correlations* between pain and  $S1$  activity.)



What I do not agree with is their follow-up claim that, if tracking intentionalism is true, then in *my quite different Mild-Severe case* the right verdict is likewise Different Content and Different Experience (as they put it, “they are carrying different information about [the same stimulus]”). (It is revealing that Hilbert and Klein do not elaborate and never say what the difference in information is.) The reason I do not agree with this is simple: whereas in their own cases there are clear *tracking differences*, in my case I made the *same tracking stipulation*, which Hilbert and Klein evidently ignored. Contrary to Hilbert and Klein, given this stipulation, tracking intentionalism implies the mistaken verdict of Same Content and Same Experience in the Mild-Severe case, as we saw above. In particular, given this stipulation, in my actual Mild-Severe case, by contrast to Hilbert and Klein’s cases, there is *no difference in granularity*. (Even if there were, how could a mere difference in representational-*granularity* possibly account for the *intensity* differences between Mild and Severe?) Since in this case tracking intentionalism implies the mistaken verdict of Same Content and Same Experience, the case stands as a counterexample.<sup>5</sup>

Indeed, these points were already emphasized in my paper. In Sect. 18.3.1 I noted that tracking intentionalists might provide what I called a “pluralist account” of some cases in which there is perceptual variation between two individuals. On this account, the individuals’ experience represent different but compatible information about the same stimulus, because of *subtle tracking differences*. Clearly, the treatment that Hilbert and Klein suggest for their Binary-Graded and Fine-Coarse cases is simply a version of the kind of pluralist account I had already discussed. In my paper, I already emphasized that, since in my own cases (Mild-Severe and the other cases) I made the *same tracking stipulation*, the kind of pluralist gambit Hilbert and Klein have in mind simply does not apply to those cases, contrary what they suggest.

**Hilbert and Klein on the Yuck-Yum case.** Another coincidental variation case I used to illustrate my internal-dependence argument was that of Yuck and Yum. Yuck and Yum taste some berries that are poisonous to Yuck but an important food-source to Yum. Here again Hilbert and Klein grant that, given the neural and behavioral

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<sup>5</sup>To see more clearly that tracking intentionalism implies the verdict of Same Content (and hence the mistaken verdict of Different Experiences) in my Mild-Severe case, consider a fanciful case analogous to my case of Mild and Severe. Suppose there are two devices, Low and High, which indicate (increasing) temperatures by producing sounds of (increasing) pitch. However, suppose that in High the pitches increase more rapidly with increasing temperatures. Thus, when (and only when) the external temperature is roughly between 45.0 and 45.3 °C, both make a distinctive sound, but the pitch of the sound made by High is a bit higher. When the temperature rises to the 45.3–45.6 °C range, they both make sounds of yet higher pitches, only the pitch-increase is higher in the case of High than it is in the case of Low. In this case, the content-vehicles are different (High’s pitch-sounds are regularly higher than Low’s), but a tracking theory obviously implies that they carry the same bits of thermal information at the same level of grain (e.g. Low’s low-pitch noise and High’s corresponding high-pitch noise both represent *the temperature is roughly 45.3–45.6 °C*). Likewise, even though Severe’s psychophysical response curve is steeper than Mild’s, so that Severe’s individual S1 states involve higher firing rates than Mild’s corresponding S1 states, those different states carry exactly the same thermal information at the same level of grain.



differences, the most reasonable view is that they have different taste experiences, 255  
 in line with my second premise (“internal-dependence”). But they question my first 256  
 premise that tracking intentionalism instead implies the (mistaken) verdict of Same 257  
 Content and Same Experience, suggesting that it might accommodate the correct 258  
 verdict of Different Contents and Different Experiences. 259

But again this is immediately problematic because in my Yuck-Yum case, as in 260  
 my Mild-Severe case, I made the “same tracking” stipulation. However “tracking” is 261  
 explained, I stipulated that they track the same response-independent properties and 262  
 conditions of the berries (the same objective information), even though their neural 263  
 states (the “information-carriers”) and behavioral responses are totally different. 264  
 This just guarantees my premise that that tracking intentionalism implies the 265  
 (mistaken) verdict of Same Content and Same Experience. 266

It is no wonder, **than** Hilbert and Klein are unable in their comments 267  
 to exactly specify how tracking intentionalism implies that there are content- 268  
 differences between Yuck and Yum, or what those content-differences might be. 269  
 They make two vague suggestions, but neither is satisfactory. (i) They suggest on 270  
 behalf of tracking intentionalists a view I had already considered in detail in the 271  
 paper (Sect. 18.3.3): the *structure gambit*. In the paper I already explained in detail 272  
 why this sort of view is incompatible with tracking intentionalism (given my *same* 273  
*tracking* stipulation) and generally problematic because of arguments due to Alex 274  
 Byrne. Hilbert and Klein do not address these objections. (ii) Alternatively, Hilbert 275  
 and Klein seem to suggest that on tracking intentionalism Yuck and Yum’s taste 276  
 experiences of the berries have *different* contents involving their own digestive 277  
 systems. They do specify the different contents, so it is difficult to evaluate this 278  
 suggestion. But, when Yuck and Yum taste the berries prior to digesting them, it 279  
 is phenomenologically implausible that their *taste experiences* represent conditions 280  
 involving what happens (or is about to happen) in their stomachs in addition to 281  
 conditions involving what happens in their mouths. Further, this suggestion is, too, 282  
 unavailable to tracking intentionalists given my *same tracking* stipulation: the neural 283  
 states realizing those taste experiences do not track different digestive conditions, 284  
 but only the same response-independent conditions (information) concerning the 285  
 berries. How then can *tracking intentionalism* deliver the verdict of Different 286  
 Content and Different Experience? It cannot.<sup>6</sup> 287

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<sup>6</sup>In some places Hilbert and Klein misrepresent my internal-dependence argument. They claim that “Pautz offers examples in which there is supposedly sameness of content” between two individuals and that I make “the stipulation that Yuck and Yum are in states with the same intentional content”. So they attribute the Same Content claim to me. Then they object to the Same Content claim, noting that it is implausible given the neural and behavioral differences between the individuals involved. But my argument does not rely on the Same Content claim. In fact, I agree with Hilbert and Klein that it is not plausible; in the paper, I repeatedly endorsed *Different Contents* (because I endorsed Different Experiences and as an intentionalist I hold that Different Experiences entails Different Contents). Instead, my argument relies on a merely *conditional* premise: *if tracking intentionalism* is true, *then* the right verdict should be (implausibly) Same Content (and hence) Same Experience. (In other words, although I think the right verdict is Different Contents, I also think *tracking intentionalists* are committed to Same Content.) As we have seen, this *conditional* claim is certainly true, given my “same tracking” stipulation.

Maybe Hilbert and Klein believe that my same tracking stipulation is impossible 288  
 given what I say about the case. For they write, “Given that Yum judges different 289  
 tastes as similar [than does Yuck], the one thing we can be sure of is that his 290  
 representation of taste tracks different aspects of the world from the ones tracked 291  
 by Yuck.” But this is exactly what I argued is false; Hilbert and Klein do not answer 292  
 the argument. The first step was that there could be two creatures, Yuck and Yum, 293  
 whose neural states and behavioral responses, in response to some berries, differ 294  
 radically, but whose neural states track *the same* aspects of the world. The stipulated 295  
 case is clearly possible, just as it is possible that two thermometers should track the 296  
 same external thermal conditions, but differ in their internal wiring and “behavioral 297  
 responses” to those conditions. The second step is that in some cases like this Yuck 298  
 and Yum have different taste experiences, and (if they are capable of judgment) 299  
 make different similarity judgments, despite the “same tracking” stipulation. Hence 300  
 tracking intentionalism is mistaken: sensory experience, and sensory content, is not 301  
 fully determined by what external-world conditions are tracked. 302

**Hilbert and Klein on the Other Cases?** To save tracking intentionalism, one 303  
 would have to address all the apparent counterexamples I used to illustrate my 304  
 “internal-dependence argument”. But Hilbert and Klein’s suggested responses not 305  
 only fail in my Mild-Severe and Yuck-Yum cases, as we have seen; they also do not 306  
 show what responses could be developed in the other cases I discuss in the paper, 307  
 the Soft-Loud and Sniff-Snort cases. 308

Incidentally, it is worth emphasizing that my internal-dependence argument is 309  
 directed against not just “tracking intentionalists” but all philosophers who, like 310  
 Hilbert and Klein, are attracted to (as they put it) “intentionalism and external world 311  
 content”, as I explain in the paper (Sect. 18.5). 312

**Hilbert and Klein Ignore the Structure Argument.** In my paper, I developed 313  
 in detail a *second* major argument, the “structure argument”. Like my internal- 314  
 dependence argument, my structure argument is directed against not just “tracking 315  
 intentionalists” but all philosophers who, like Hilbert and Klein, are attracted to 316  
 “intentionalism and external world content”. For, on this view, what external- 317  
 world properties might the huge multitude of sensible qualities (tastes qualities, 318  
 sound-qualities, etc.) be identified with? The most natural candidates are *response-* 319  
*independent* properties of external things: chemical properties, properties involving 320  
 wavelength and frequency, and so on. Along with his co-author Alex Byrne, 321  
 Hilbert holds that colors are response-independent reflectance-types (2003). So, 322  
 by considerations of parity, he is under pressure to accept a response-independent 323  
 view in the case of the other senses. But, according to my structure argument, given 324  
 “bad external correlation” in my sense, proponents of this view cannot adequately 325  
 accommodate the truth of our ordinary *qualitative structure judgments*. 326

In the color case, Hilbert (along with Byrne) has defended a “hue-magnitude” 327  
 of color structure account in response to the *argument from color structure* (2003). 328  
 My “structure argument” is a novel version of that argument generalized to sensible 329  
 qualities beyond the colors. However, as I note (footnote 10) in the paper, nothing 330

like the hue-magnitude reply works once we move beyond the color case (in fact in 331  
Pautz (2011b: footnote 6) I argue that the hue-magnitude reply is problematic and 332  
unclear even in the color case). In their comments, Hilbert and Klein do not provide 333  
an alternative reply. In fact, they do not discuss my “structure argument” at all. 334

So, while I am grateful to Hilbert and Klein for their comments, I believe that they 335  
do not answer my arguments, the internal-dependence argument and the structure 336  
argument. I think it is time we start looking for alternative theories of sensory 337  
consciousness. 338

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