


# Theories and Misrepresentation

**David Rosenthal**  
CUNY Graduate Center  
Philosophy and Cognitive Science  
<https://www.davidrosenthal.org/>



- **1.** We want to test each of the four HO variants. But as Hakwan and Richard have noted, one of those variants is “an intermediate view that captures some of the flavor of both the first-order and higher-order views” (2019, p. 186).
- That’s Hakwan’s joint-determination view, on which a HO state results in a FO state’s being conscious—but how it’s conscious is due just to the FO state. I’ll urge that this leads to problems that FO views also face.
- As Steve notes, HOSS theory is “a variant of the ‘joint determination’ view” (2020, p. 7). Roughly, the HO state does detection, and the FO perception does discrimination.



ULB/UCL Workshop on Consciousness 28 May 2021 2

- But consciousness does sometimes actually misrepresent what mental state one is in. FO theorists think HO theories go wrong in countenancing this. But it's real—it's a feature, not a bug. A few examples:
- Changes in change blindness are often seen, just not consciously (Fernandez-Duque & Thornton, 2000). Subjective awareness then misrepresents the changed perception.
- In addition to long-lasting postdiction (Michel & Doerig 2021), flickering colors can fuse into a different conscious, nonflickering color—but fMRI shows that visual cortex continues to register flickering. Consciousness again diverges from the FO state (Jiang et al 2007).

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 3a

- Consciousness also can misrepresent in hypnosis, which Zoltan can speak well to. And one seems subjectively to see colors in the periphery that retinal cells there can't support—so-called subjective inflation (e.g., Knotts et al 2019). Other cases abound.
- A good test for any theory is whether it can explain these things. FO theories like Ned's (1995, 2011) can't. Because those theories see consciousness as intrinsic to perceptions, what it's like can't diverge from the mental properties of perceptions.
- Hakwan and Richard (2019) have advanced a related concern, based on cases in which the FO state doesn't exist or is too weak.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 4a

- Ned's intrinsicist view also can't explain those cases. Nor can GWT, since there's then nothing to propagate a global signal.
- But those cases differ from my concern—which is about actual FO states whose mental properties are misrepresented. Thus GWT could construe consciousness as misrepresenting if there's an actual signal that changes as it produces a global effect.
- But like Ned's view, joint determination has problems on both scenarios. If FO states determine what it's like, how can there be anything at all it's like without a FO state? And how then could what it's like diverge from the mental properties of the FO state?

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 5a

- Similarly with Hakwan's indexing. The HO index is subpersonal, and so can't describe a FO state, or affect how we're aware of it. And why then would what it's like diverge from the mental properties of the FO state? Hakwan urges prediction is enough—we don't also need explanation. But we do need to understand why prediction works.
- Hakwan urges that "one can ... decode the content with indexes" (5-26). But then why doesn't the HO state have descriptive content—as on Richard's theory, and mine?
- Many credible cases of misrepresentation are available—and can be adapted and tightened for our purposes in testing.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 6a

- Hakwan suggests that indexes work by way of relative distance among FO addresses. This fits well with my proposal (2010) that we individuate FO mental qualities in a relative way, by their role in discriminating stimuli.
- Richard doesn't like my proposal—it's not clear why—and he thinks it isn't necessary.
- But it's hard to see an alternative if HO states represent FO states conceptually, as Richard and I both hold. Nonrelational, atomic concepts can't deliver anything like suitable fineness of grain—no matter how sparse one might be willing to go. A relational account is likely needed to get any acceptable HO conceptual description.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 7a

- All this suggests a test that can be useful. Consciousness sometimes misrepresents, and indexing and joint determination can predict that only with significant changes.
- This also applies to Steve's HOSS variant, since the HOSS machinery determines only whether a FO state is conscious, and not how it's conscious—not what it's like. So it can't accommodate HO misrepresentation.
- Steve sensibly urges that awareness reports are the data for a science of consciousness. But he sees such reports as expressing only "an internal decision about the visibility of perceptual contents" (2020, p. 1). And reports are often also about what it's like for one.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 8a

➤ For some experimental purposes, limiting reports to visibility may be useful. But as data for studying consciousness, reports should include what it's like—since that's what a science of consciousness is about.

➤ **2.** Richard's theory readily deals with HO misrepresentation. The HO state describes the FO state, and so determines how one is aware of the state, and what it's like. So what it's like can occur with no FO state—and can misrepresent one that does occur.

➤ I see nothing to distinguish Richard's (2015) theory from mine—except for terminology, mainly about 'phenomenal consciousness'. So very brief a word about that.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 9a

➤ 'Phenomenal consciousness' is a term of art. Ned sees it as intrinsic to FO states—whereas Richard sees it as a property of a HO state, conceding that this is "counter-intuitive" (2015, p. 1787).

➤ Put neutrally, it's what it's like to be in a state. But there's nothing it's like to be in a HO state. So it's better to see it as just a nonintrinsic property of FO states. HO states aren't phenomenally conscious—they're just a condition for its occurrence.

➤ This is all simply terminological preference. Richard prefers his terminology because of cases in which there is no FO state. But those cases cause no difficulty.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 10a

- A perception of red with a HO awareness of that FO state as green is phenomenally conscious as green. What it's like is green. And if the perception is absent, what it's like is still that one is in a state of seeing green—even though one isn't.
- What it's like to be in a state is the way one is subjectively aware of that state. As Axel says, "phenomenology follows HORs" (5-27).
- And SOMA handles HO misrepresentation nicely. ToM helps generate the descriptive concepts that HO states need—even if their mechanisms aren't the same. So HO states can misdescribe. And that social dimension helps explain how HO states arise at all

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 11a

- But a question: Given the social dimension, why not see the HO content as conceptual?
- **3.** On Hakwan's PRM theory, perceiving is conscious if the HO state has "the content that, a particular first-order perceptual representation is a reliable reflection of the external world right now" (2019, p. 3, Hakwan's underscore). This raises new issues.
- Suppose the HO state makes one aware of a perception—but does not judge that it's reliable. Might the FO state be conscious—but just as imagery (p. 3)? If not, why not? But if so, PRM says whether a FO state is conscious as perceiving or as imagery—but not simply whether it is conscious.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 12a

- More important: Is the Discriminator that judges perceptual reliability part of the HO apparatus that results in a state's being conscious? Unconscious perceiving often guides behavior (e.g., Koivisto & Kangassalo 2021), and so must be seen by the psychological machinery as reasonably reliable.
- So we might test PRM by determining whether unconscious perception that does guide behavior unconsciously is also unconsciously judged reliable. That's apart from any previous concerns.
- Joint determination and indexing reflect "both the first-order and higher-order views" (Lau & Brown 2019, p. 186). But why do that?

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 13a

- It does appear subjectively that what it's like is intrinsic to the FO states. And FO theories see that appearance as the reality. But for a state to be conscious is for one to be subjectively aware of it in respect of what it's like. And a content-neutral HO state can't make one aware of a FO state in that way. Nor can the FO properties, which on their own are not conscious.
- Positing that FO states determine what it's like conflates subjective appearance with a theoretical account of that appearance.
- Might we test joint determination directly by determining whether descriptions of perceptual content are coded in PFC?

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 14a

- One worry: We would need to distinguish those HO representations from the FO conceptualizing that occurs in perceiving. Also, since FO states cause HO states, they typically match. But misrepresentation can say which states determine what it's like.
- **4.** A test based on HO misrepresentation also reflects the nature of consciousness in ways that other tests don't always do.
- Consciousness is psychological. So any theory—whether cast in computational or neuroscientific terms—must answer to a psychological description of consciousness. And misrepresentation by consciousness is itself already cast in psychological terms.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 15a

- Also, misrepresentation in effect carves off the conscious aspect of a conscious state from the rest of its psychological nature—and does so in psychological terms.
- In misrepresentation, the way the state subjectively appears diverges from other aspects of its psychological nature— aspects responsible for guiding behavior, priming, reaction times, and so forth.
- So cases of misrepresentation allow us to isolate the subjective aspect of a state and to distinguish it from the state's other psychological properties—so that we can focus just on that subjective appearance.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 16a



- A theory must predict when a state will occur consciously. But its prediction should reflect what it is for a state to be conscious. This is a descriptive task, not explanatory.
- Otherwise we can't ensure that the theory answers to an accurate description of the target psychological phenomenon—so that the theory is actually about consciousness.
- A state's being conscious consists in there being something it's like to be in the state—it consists in there being some subjective appearance of being in that state.  
And that requires subjective awareness of the state—an awareness of the state in respect of what it's like to be in it.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 15

- And awareness of a state in respect of what it's like to be in it requires HO descriptive content. The HO state must represent the conscious state in respect of those mental properties that figure in what it's like.  
And that's also exactly what's needed for a HO state to explain misrepresentation.
- In appealing to subjective justification, PRM is sensitive to this concern. But that factor figures in what it is for a perception to be conscious, and not states of other types.
- It may be that a joint-determination view—like Ned's FO approach and like GWT—lacks resources to describe what it is for mental states in general to be conscious.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 18a

**Thank you for  
your attention**

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 19

**REFERENCES**

Block, Ned (1995), "On a Confusion about a Function of Consciousness," *Behavioral and Brain Sciences*, 18, 2 (June): 227–247.

Block Ned (2011), "The Higher-Order Approach to Consciousness is Defunct," *Analysis*, 71, 3 (July): 419–431.

Brown, Richard (2015), "The HOROR Theory of Phenomenal Consciousness," *Philosophical Studies* 172, 7 (July): 1783–1794.

Fernandez-Duque, Diego, and Ian M. Thornton (2000), "Change Detection without Awareness: Do Explicit Reports Underestimate the Representation of Change in the Visual System?", *Visual Cognition*, 7, 1-2-3 (January–March): 324–344.

Fleming, Stephen M. (2020), Awareness as Inference in a Higher-Order State Space," *Neuroscience of Consciousness*, 6, 1: niz020.

Jiang, Yi, Ke Zhou, and Sheng He (2007), "Human Visual Cortex Responds to Invisible Chromatic Flicker," *Nature Neuroscience* 10, 5 (May): 657–662.

Koivisto, Mika, and Veera Kangassalo (2021), "Unconsciously Guided Behavior with a Bias-Free Measurement of Consciousness," *Research Square*, doi: 10.21203/rs.3.rs-428626/v1.

Knotts, J. D., Brian Odegaard, Hakwan Lau, and David Rosenthal (2019), "Subjective Inflation: Phenomenology's Get-Rich-Quick Scheme," *Current Opinion in Psychology*, 29 (October): 49–55.

Lau, Hakwan (2019), "Consciousness, Metacognition, and Perceptual Reality Monitoring," *PsyArxiv*, June 10, 2019, doi: 10.31234/osf.io/ckbyf.

Lau, Hakwan, and Richard Brown (2019), "The Emperor's New Phenomenology? The Empirical Case for Conscious Experiences without First-Order Representations," in *Blockheads! Essays on Ned Block's Philosophy of Mind and Consciousness*, ed. Adam Pautz and Daniel Stoljar, Cambridge, Massachusetts: The MIT Press, pp. 171–197.

Michel, Matthias, and Adrien Doerig (2021), "A New Empirical Challenge for Local Theories of Consciousness," *Mind & Language*, online March 17, doi: 10.1111/mila.1231

Rosenthal, David (2010), "How to Think about Mental Qualities," *Philosophical Issues*, 20 (October): 368–393.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 28 May 2021 20

## Postscript to “Theories and Misrepresentation,” DR

- Joint-determination approaches distinguish the factor in virtue of which a state is conscious from those factors that determine what a state’s conscious content is. A HO factor determines whether a state is conscious, and the nature of its conscious content is independently due to FO factors.
- That works only if a state’s being conscious is independent of the way it’s conscious—in respect of conscious content. So it must be shown that those two are independent. And it’s unclear what could show that.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 25-27 August 2021 21

- A state can’t be conscious without being conscious in some particular way. That seems to tie together being conscious and conscious content. A conscious sensation of red, e.g., is conscious as being of red. That’s the way that state is conscious.
- We can use subjective report to test the HO state as an on-off switch simply for whether a FO state is conscious. But subjective report can reveal not only whether one perceives, but also how one does—i.e., what the conscious content is.
- So subjective report also forges a link between whether a state is conscious and what its conscious content is.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 25-27 August 2021 22a

THE GRADUATE CENTER  
CUNY BAY PLEASANT

- Subjective report reveals what it's like for the subject—i.e., the way the subject is consciously aware of a stimulus. And that's what conscious content is: It consists in the properties in respect of which a subject's perceiving is conscious.
- But joint-determination advocates may not find this decisive. They see the HO factor as just "turning on" a FO content factor, resulting in conscious content, e.g., of red.
- So misrepresentation is crucial. If the way a FO state is conscious can misrepresent its mental nature, the way a state is conscious is distinct from that state's FO nature.

ULB/UCL Workshop on Consciousness 25-27 August 2021 23a

THE GRADUATE CENTER  
CUNY BAY PLEASANT

- Suppose a FO sensation of red is conscious as a sensation of green. (Forget whether that's credible; any misrepresentation, however mild, will make the point.)
- Then the HO factor can't just "turn on" the FO content, since the way the state is conscious diverges from that FO content.
- Perhaps the misrepresentation results from the interaction of HO and FO factors. Indeed, that's likely so on any HO story. Might that help save joint determination? Perhaps consciousness could then still be just HO and content just FO; the interaction alone would explain the misrepresentation.

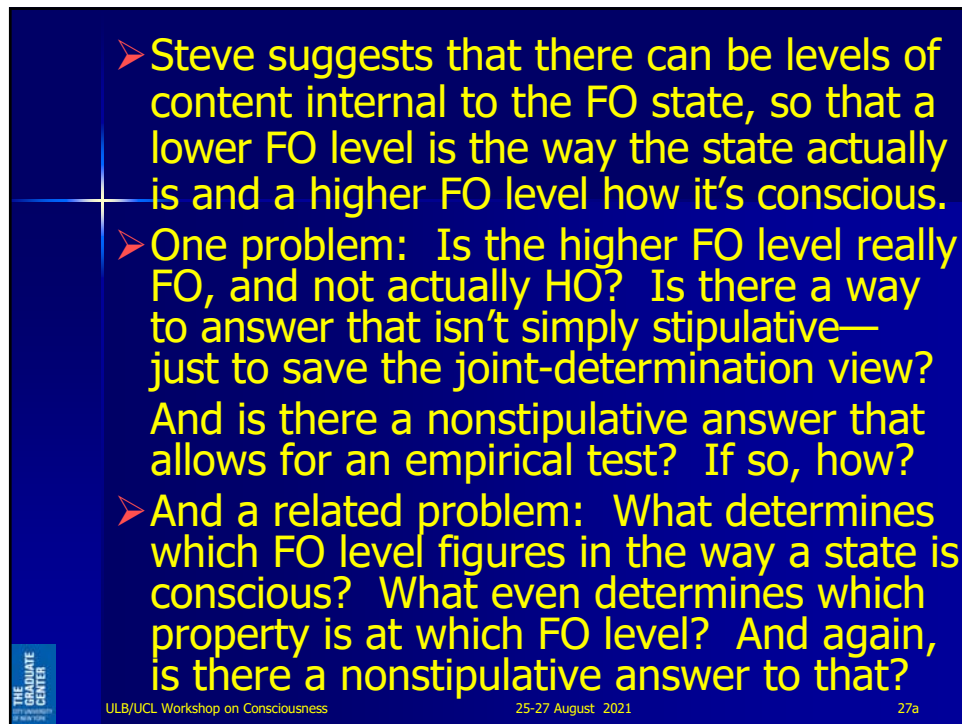
ULB/UCL Workshop on Consciousness 25-27 August 2021 24a

- But the appeal to causal interaction can't save joint determination.
- Interaction between FO and HO states likely explains misrepresentation even if the HO state determines by itself what it's like. The FO content would then always contribute to causing HO content of some sort. In good cases the two would match; in misrepresentation they would diverge.
- How, then, might causal interaction explain misrepresentation on a joint-determination story? What might happen with that interaction to result in misrepresentation? It's not at all clear.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 25-27 August 2021 25a

- If the HO state is just an on-off switch for a state's being conscious or not—perhaps also determining intensity, as on HOSS—nothing about the HO state determines conscious content, and so nothing affects how consciousness represents the FO state.
- So on joint determination the interaction between FO and HO states won't matter for how consciousness represents the FO state. So it can't explain misrepresentation.
- So it must all be at the FO level. But misrepresentation is a disparity between how a FO state is conscious and how it actually is. Can both be at the FO level?

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 25-27 August 2021 26a

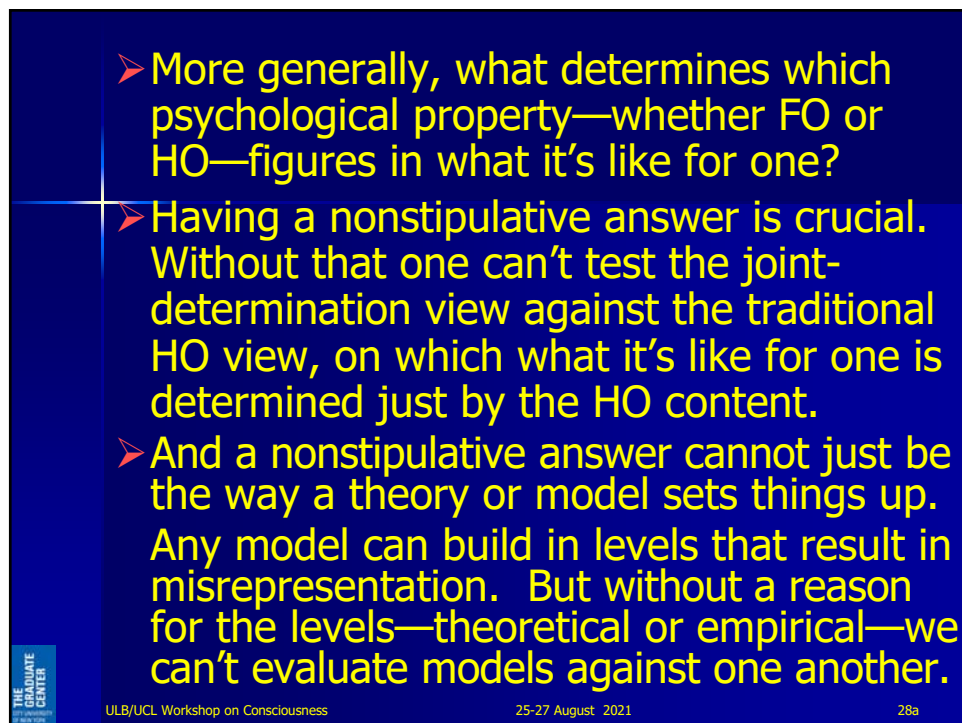


➤ Steve suggests that there can be levels of content internal to the FO state, so that a lower FO level is the way the state actually is and a higher FO level how it's conscious.

➤ One problem: Is the higher FO level really FO, and not actually HO? Is there a way to answer that isn't simply stipulative—just to save the joint-determination view? And is there a nonstipulative answer that allows for an empirical test? If so, how?

➤ And a related problem: What determines which FO level figures in the way a state is conscious? What even determines which property is at which FO level? And again, is there a nonstipulative answer to that?

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 25-27 August 2021 27a



➤ More generally, what determines which psychological property—whether FO or HO—figures in what it's like for one?

➤ Having a nonstipulative answer is crucial. Without that one can't test the joint-determination view against the traditional HO view, on which what it's like for one is determined just by the HO content.

➤ And a nonstipulative answer cannot just be the way a theory or model sets things up. Any model can build in levels that result in misrepresentation. But without a reason for the levels—theoretical or empirical—we can't evaluate models against one another.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 25-27 August 2021 28a

- As noted earlier, the traditional HO view has a nonstipulative way to tell which content properties determine what it's like. What it's like for one is the way one is aware of perceiving. So it's the HO state—the state that describes the FO perceiving.
- We test that account whenever we rely on subjective reports of what it's like for one. A joint-determination view might identify one FO level as doing that—but without an account of why, we just have a notational variant, equivalent to the traditional theory. No test would favor one over the other.
- Joint determination needs an alternative, nonstipulative account of the levels it posits.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 25-27 August 2021 29a

- As noted, joint determination sees the HO factor as just “turning on” some FO content factor. So that FO factor determines by itself what the conscious content is.
- But how might such “turning on” operate? On traditional HOT theory, the HO state is an awareness of being in some type of FO state. Since what it's like consists in being thus aware, conscious content is then due just to the HO state—though that HO state is typically caused by a relevant FO state.
- Joint determination must say how “turning on” makes what the conscious content is due just to the FO state. And it cannot just stipulate that—it needs a mechanism or an explanation. It's unclear that there is any.

THE GRADUATE CENTER  
ULB/UCL Workshop on Consciousness 25-27 August 2021 30a