

Consciousness and Representationalism

Benj Hellie, Sage School of Philosophy, Cornell University, Ithaca, New York, USA

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The representationalist theory of consciousness is the view that consciousness reduces to mental representation. This view comes in several variants which must explain introspective awareness of conscious mental states.

INTRODUCTION

0150.001 Some mental states and processes are like something to their subjects; others are not. For instance, the states of seeing a stop sign, of hearing a screech, and of smelling gasoline are like something; as are the states of feeling fear, elation, or pain; as is the process of talking oneself through a problem. In contrast, states and processes that are not like anything to their subjects are accepted by both scientific and common sense psychology. Chomskian linguistic theories and Marrian theories of vision posit complex subpersonal operations, which make a difference to what one's mind is like to one only by their effects; common sense recognizes states of believing and intending that persist through dreamless sleep. States and processes that are like something to their subjects are conscious; otherwise not.

0150.002 Among conscious states, what they are like to their subjects can differ: what seeing a red thing is like is standardly different from what seeing a green thing is like; what both are like differs from what smelling gasoline is like. A state has a 'phenomenal character' just in case it is conscious, or like something to its subject; two states have the same phenomenal character just in case what one is like to its subject is the same as what the other is like to *its* subject.

0150.003 Phenomenal characters pose special problems for a fully naturalistic theory of the mind, for it may seem baffling how these properties can arise ultimately from interactions of particles and fields, or from processes in the brain. Wittgenstein famously wondered how *this* – his then current headache – could be a brain state; such bafflement is a

proper reaction to the great difference in the ways in which phenomenal characters present themselves when thought of as phenomenal characters from the ways in which brain properties present themselves when thought of as brain properties.

0150.004 Representationalism is a view that attempts to naturalize phenomenal character without generating such bafflement by adopting a two-stage naturalistic reduction. The representationalist hopes that an intermediate reduction to certain representational properties won't generate bafflement; and that these representational properties may be reduced in turn, through one of the many ambitious projects for naturalizing mental representation.

WHAT IS REPRESENTATIONALISM?

0150.005 Representationalism is the view that phenomenal characters somehow reduce to representational properties. The notion of a representational property deserves some expansion.

0150.006 A state has a representational property when, to put it intuitively, it has a meaning or somehow stands in in some process for something else, such as an object, or a 'proposition' – a putative fact. Paradigmatic mental representational states are beliefs: one who believes that snow is green is in a state which means that snow is green, and which stands in for the putative fact that snow is green in a subject's reasoning. Another example is the state of thinking of Vienna: such a state means, or is about, Vienna; and stands in for Vienna itself in the subject's reasoning. Belief and thought-about are known to common sense psychology; scientific psychology also posits representational states: in some linguistic theories, for instance, in a many stage process of linguistic comprehension, a language-processing module goes into states which represent phonological, syntactic, and semantic properties of heard sentences.

0150.007 Hoping that snow is green differs from believing that snow is green, although both are representational states and concern the proposition that snow is green. Standard philosophical theories consequently take representational states to involve a relation between a subject and a 'content' – what is meant – via an attitude or the relation borne to that meaning. When one believes that snow is green, the attitude is belief; when one hopes that snow is green, the attitude is hope. A representational property of a representational state may thus be characterized as a pair composed of an attitude and a content.

0150.008 Representational states have correctness, or satisfaction conditions, partly determined by the correctness conditions for their contents. A proposition is correct just in case it is true; correctness conditions for other sorts of contents, such as Vienna, are less well understood by philosophy. So, for instance, a belief is correct just in case its content is; a desire or hope is satisfied just in case its content is correct.

VARIETIES OF REPRESENTATIONALISM

0150.009 This crude formulation allows for a good deal of variation, along at least three dimensions.

What sort of reduction?

0150.010 Any attempt at reduction may be more or less ambitious. This ambition influences the relation taken to hold between the reduced entity and the reducing entity.

0150.011 The weakest interesting relation for reductive purposes is 'supervenience': the reduced entity cannot vary without variation in the reducing entity. Supervenience seems to be a necessary condition for reduction of any sort; whether it is sufficient is hotly debated.

0150.012 A stronger thesis brings about an ontological reduction by identifying particular phenomenal characters with particular representational properties: for each phenomenal character ϕ there is a representational property ρ such that for a state to be ϕ is for it to be ρ ; moreover, the property's status as representational is somehow fundamental, whereas its status as phenomenal is somehow more superficial.

0150.013 A still stronger thesis brings about an epistemological or explanatory reduction by claiming the relevant identities to be *a priori* (under canonical ways of conceptualizing the properties in question).

Which phenomenal characters are reduced?

The many different sorts of conscious states canvassed in the introduction have a wide variety of phenomenal characters: perceiving is unlike imagining; feeling sad is unlike feeling a physical pain. A representationalist may attempt to reduce all phenomenal characters, or only some privileged set of them, such as experiences of visually perceiving color. 0150.014

There may be some purposes for which a limited theory would be interesting, such as that of avoiding a perceptual epistemology of sense-data (Russell, 1912; Harman, 1990). However, if the main purpose of representationalism is bringing consciousness under a unified naturalistic umbrella, less ambitious theories with narrower scope are less interesting; moreover, less ambitious theorists are forced to explain what it is about those special phenomenal characters which makes them susceptible to representationalist treatment when others are not. 0150.015

First-order and higher-order representationalism

Not all representational states give rise to consciousness: e.g. sound sleepers continue to store memories. Which do? 0150.016

Some mental states represent other mental states: I can think about my thinking about Vienna. Here the thought about Vienna is 'first order'; the thought about the thought is 'higher order'. 0150.017

According to first-order representationalism (Harman, 1990; Tye, 1995) (sometimes called 'intentionalism'), some representational states that do not concern other mental states, such as seeing a green tree, are by their nature sufficient to give rise to phenomenal character. First-order representationalists identify phenomenal characters with a pair of a content and an attitude. First-order representation historically developed with the partial intent of avoiding a sense-datum epistemology (Harman, 1990), so that advocates of the view are often concerned to show that any conscious content must concern nonmental reality; but there is no obvious reason why a naturalist must hold this nonmental-ist position: represented mental states might be themselves natural, and themselves represented as instancing natural properties. 0150.018

By contrast, according to higher-order representationalism self-representation is necessary for consciousness, so that first-order states cannot by themselves give rise to consciousness (unless the 0150.019

first-order state is essentially such as to be self-representing; more below). There are several dimensions of variation in higher-order theory.

0150.020 Perhaps the higher-order attitude is belief (Rosenthal, 1997); perhaps it is perception (Lycan, 1997; Lormand, in press); perhaps it is a form of Russellian 'acquaintance' (Russell, 1912), which could be thought of as a relation which grounds the meanings of demonstrative concepts such as 'this' and 'thus'; further options are certainly available.

0150.021 Moreover, there is room for variation in the causal relation the representing state bears to the represented state: perhaps no constraint is required, or perhaps a tight constraint, along the lines of that necessary for veridical perceiving is required. Or, alternatively, perhaps the representing and the represented states are in a tighter metaphysical relation of partial constitution.

0150.022 Finally, though it would seem natural for the higher-order representationalist to take the phenomenal character of a state to be determined by how it is represented by the higher-order state, the fact that some conscious states are themselves representational gives rise to a choice here. What if the content of the lower-order state is misrepresented by the higher-order state – so that, for instance, an experience of seeing a red thing is misrepresented as an experience of seeing a green thing? Neither option is happy: if the higher-order content determines phenomenal character, although the subject would say 'that's red', he would seem irrational to himself in doing so; if the lower-order content determines phenomenal character, the higher-order content seems otiose. This dilemma can be dissolved if either the higher-order attitude is infallible, or if only noncontent properties of the lower-order state are represented.

A mixed view

0150.023 Finally, first- and higher-order views can be combined, if the 'special' first-order attitude is one which essentially involves self-representation: one bears this special attitude *A* to a content *c* only if one bears some further attitude *A'* to one's bearing *A* to *c*. If $A = A'$, an infinite hierarchy of bearings of *A* result.

ARGUMENTS FOR REPRESENTATIONALISM

Higher-order representationalism

0150.024 Higher-order representationalism can seem truisitic. Intuitively, the phenomenal character of a mental state makes some impact on the subject's awareness: the idea of a state which has phenomenal character, but of which the subject is not in any way aware, is bizarre in the extreme. The impact need not consist in the presence of an occurrent opinion about which phenomenal character one is currently enjoying: a daydreamer might fail to notice subtle shifts in visual experience resulting from the gradual descent of the sun. However, in subjects with the conceptual capacity for such thoughts, the ground of such thoughts must be present.

0150.025 More must be done, of course, to specify what such grounding amounts to, and what it is to have an opinion about which phenomenal character one is currently enjoying. However, an analogy to perception may prove a fruitful source of investigation: just as perception provides the ground for occurrent thoughts about which colors and shapes are before one by serving as a stock of representations distinct from occurrent thought, so may awareness of phenomenal character do so by serving as a stock of representations distinct from occurrent thought.

0150.026 Higher-order representationalism seems to be a commitment of the common idioms of consciousness. We say that a conscious state is 'like something to its subject'; under analysis, this predicate is revealed to apply to a state just in case the subject represents the subject is acquainted with certain features of the state. On a slightly less common, but still natural, way of speaking of phenomenal character, we say that a state 'feels a certain way to its subject': here analysis is not needed to reveal that language draws an analogy between conscious and perceptual representation. With a suitable theory of the link between truth-conditions and metaphysics, these observations could be extended to a proper argument for higher-order representationalism.

Phenomenology and first-order representationalism

0150.027 The first source of support for first-order representationalism is an effect observed in phenomenological investigation, commonly known as

'transparency' (Harman, 1990; Tye, 1995): allegedly, when one sees a blue bead, one cannot detect any 'intrinsic' or nonrepresentational property (aside from the bead's apparent property of blueness) making a difference to the phenomenal character of this experience of seeing. If phenomenal characters are as they seem, no nonrepresentational property does make a difference; and what applies for this experience is held to apply for all experiences.

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This argument doesn't show anything deep about consciousness, however. Even if transparency holds for states of seeing, the phenomenal character of one's total experience is complex, and there are contributions made by further mental states one is in: transparency may fail for these. There is nothing incoherent about the idea of a nonrepresentational property of a mental state or process: a mental process might proceed at a certain rate, or be subject to voluntary control with a certain number of degrees of freedom. Nor is there anything incoherent about the idea of such a property being introspectively detectable, and thereby influencing phenomenal character. Consequently, if transparency holds, it does so at best contingently. Moreover, it does not even seem to hold generally for actual human phenomenal character.

Epistemology and first-order representationalism

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The second source of support for the first-order view appeals to a 'recycling' theory of concepts of phenomenal character. Allegedly, when one forms an introspective judgment about which phenomenal character one is enjoying, one singles out that phenomenal character only by reusing discriminative capacities already conferred by undergoing an experience with a certain first-order content, together perhaps with a highly general concept of mental states of a certain sort (Evans, 1982). So for instance, when one sees a blue bead, one singles out the phenomenal character of the experience of seeing the blue bead roughly by taking it to be that phenomenal character had by experiences which represent things as thus, where one's grasp of 'thus' is grounded in the experience itself: here, the material before the 'thus' is responsible for the concept's application to one among the phenomenal characters; 'thus' is responsible for distinguishing the phenomenal character from all others. The end result is to distinguish phenomenal characters in general as representational properties. Hence, if our introspective concepts of phenomenal characters are true to and exhaustive of

the natures of phenomenal characters, phenomenal characters just are properties involving representing nonmental reality as a certain way. Some terminology: the perceptual state responsible for grasp of the concept 'thus' contributes 'novel' content; whichever state is responsible for the concept of phenomenal character contributes 'recycled' content.

The recycling argument has the same flaw as the transparency argument. Even if some discriminations of phenomenal characters recycle novel content concerning nonmental reality, this is compatible with there being introspective concepts with novel content concerning mental states and processes.

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Mentalism and nonmentalism

These objections only concern nonmentalist formulations of first-order representationalism. The recycling and transparency arguments do seem to hold once they have been weakened to allow for the sorts of phenomena to be discussed in the next section.

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ARGUMENTS AGAINST REPRESENTATIONALISM

Spectral inversion and the first-order view

The first-order view must explain the data that support the higher-order view: perhaps this can be done by adopting the mixed view described earlier. Once this challenge has been met, two other objections arise.

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Consider first a sample inversion argument (Block, 1990). Perhaps there are three possible subjects s_1 , s_2 , and s_3 , such that s_1 and s_2 are alike phenomenally and differ from s_3 , and s_2 and s_3 are alike representationally and differ from s_1 . For the first condition, suppose that s_1 and s_2 are alike intrinsically in those respects which matter for phenomenal character, while s_3 differs intrinsically enough to make phenomenal character differ.

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In support of the possibility of such a trio, many have felt a powerful intuition that phenomenal character supervenes on a subject's intrinsic nature. For the second condition, suppose that internal constitution doesn't much matter for representational properties (the sign is arbitrary), so that the difference between s_2 and s_3 does not prevent them from being the same representationally – perhaps as a result of compensating divergences in their

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environments. A number of ways of establishing that there could be such compensating divergences in the presence of intrinsic likeness have been described in the literature; a typical attempt appeals to s_2 and s_3 being spectrally inverted with respect to one another but nonetheless deferring to the same experts in forming opinions about the colors of things. If thought content is deferential, and people standardly believe things are as they perceptually represent them to be, then s_2 and s_3 standardly perceptually represent things to be of the same color, violating supervenience.

0150.035 The difficulty with this argument is that the premises both that thought content is deferential and that people standardly believe things are the way they perceptually represent them to be yield together the odd conclusion that perceptual representation is deferential: if perceptual content is nonconceptual, as many take it to be, it is unclear how deference could influence it. Moreover, however plausible deference may be for the concept 'red', it is less so for indexical predicate concepts such as 'thus'. Conversely, while 'thus' seems essentially tied to perceptual content, 'red', if subject to deference, is potentially less so.

0150.036 The difficulties with this particular argument hold more generally: opinions about the narrowness of phenomenal character and the breadth of content may individually seem initially plausible, but the methodology for establishing such results has come under heavy attack in recent years. Moreover, even if color content is universally wide, the first-order representationalist may still retreat to the view that the phenomenal character-fixing first-order contents concern mental qualities, such as the degree to which certain retinal circuits are stimulated.

Straightforward counterexamples to the first-order view

0150.037 Consider then a putative counterexample (for others see Peacocke, 1983): perhaps the most striking is double vision of the sort that results when one pokes one's eye with a finger. If one were to attempt to describe this experience, the most natural description would apply nonrepresentational predicates to one's own mental processes: one would say that one's visual field fragmented into two portions, which came to transparently overlay one another and move with respect to one another. If this description is correct, we seem to be introspectively aware of nonrepresentational properties of experience.

Mentalist first-order theorists may happily 0150.038 accept such examples. Anti-mentalist first-order theorists standardly reply to such counterexamples by redescribing the experience as one involving only ascription of properties to nonmental entities (Tye, 1995). For example: everything before me was suddenly replaced by a pair of transparent ghostly replicas of the scene before my eyes which then proceeded to move with respect to one another. Unfortunately, this description is implausible. The first-order representationalist should be concerned about this, for the transparency and recycling arguments both rely on a fairly high degree of privileged access to the nature of conscious mental states. Moreover, it is unclear what constrains such a strategy of redescription. Once initial plausibility has been set aside as a constraint, the position quickly threatens to become vacuous.

The higher-order view

Now consider the higher-order view. First, note 0150.039 that inversion-style objections can be readily modified to attack higher-order theory with more or less success.

Objections in the literature peculiar to the higher-order view have tended to focus less on the general higher-order approach than on particular hypotheses concerning the higher-order attitude. Of these, those receiving the most attention have been that the attitude is thought (the 'higher-order thought' view) and that it is perception (the 'inner-sense' view). A gamut of objections have been raised against each, too many to cover in detail. I will focus on the predictions these positions make concerning the nature of introspective knowledge of phenomenal character. 0150.040

Epistemology and higher-order thoughts

According to the higher-order thought view, a state 0150.041 is conscious just in case one has a belief about it; presumably the content of the belief concerns which phenomenal character the state has. Since one can open one's eyes without being flooded with an infinite hierarchy of conscious thoughts about one's perceptual states, the view must thus permit the higher-order beliefs to be themselves not conscious. The motivating idea behind higher-order representationalism was that a state has phenomenal character only if its subject is in some sense aware of it, in a way that grounds conscious introspective thought about which phenomenal

character it has. The higher-order thought theorist should thus regard the possession of the nonconscious higher-order thought as sort of awareness which provides such a ground. Forming such a conscious thought should then be a matter of bringing the unconscious thought to consciousness.

0150.042 Compare standard cases in which one brings a nonconscious thought to consciousness: one example is simply bringing a belief to consciousness; another is straining to recall someone's name. Both processes seem distinct from the processes by which one forms conscious thoughts about the phenomenal characters of one's conscious states. As discussed above, one can do so either by recycling content, or by a perceptionlike process. Either case is, intuitively, a matter of making a discovery – perhaps a relatively banal discovery but a discovery still – whereas according to higher-order thought theory, it is a matter of mere rethinking something one already knew.

Recycling and inner sense

0150.043 According to the inner sense view, conscious states are themselves perceived. As noted above, the attractiveness of the idea that conscious states are perceived is encoded in idioms for discussing consciousness ('states that feel a certain way'). Since the concept of perception is not wholly clear, however, nor is the adequacy of the view. Suffice it to say that while the idea that we perceive double vision and other distortions has some plausibility, the analogy becomes rather strained when applied to experiences whose phenomenal characters are known by recycling.

A Russellian view

0150.044 Thought and perception do not exhaust the space of possible attitudes one might bear to one's conscious states. A view according to which distortions are perceived, and perceptual states are known by recycling, would evade the concerns raised against higher-order thought and inner-sense views. Such a view could avoid being *ad hoc*, if perceiving, and that grasp of concepts of phenomenal character which underlies the capacity for recycling perceptual contents, can both be plausibly taken as determinates of a more inclusive notion of Russellian 'knowledge by acquaintance' (Russell, 1912). There are in fact substantial cognitive similarities between perceptual knowledge and knowledge by recycling that justify so treating them: both are sorted by content and modality, both seem to ground demonstrative and recognitional indexical

concepts, and so forth. Then Russell's observation that when one stands in a relation of acquaintance one is in addition acquainted with this relation generates an infinite hierarchy of relations of acquaintance.

The existence of such a hierarchy is plausible: we 0150.045 can introspect, and introspect our introspection, and introspect our introspection of our introspection, and so forth. Nor does this proposal face the concern that scotched the higher-order conscious thought proposal; relations of acquaintance serve as grounds of potential conscious thought, and need not give rise to actual or occurrent conscious thought.

An objection to this approach is that if concepts 0150.046 of phenomenal character are required to get consciousness off the ground, the experiences of dogs and children are not conscious. The correct reply is to bite the bullet: after all, do we have any way of knowing that they are?

Zombies and nonreductive representationalism

A final objection to representationalism appeals to 0150.047 zombies: one could perhaps conceive of creatures functionally like us but which lack phenomenal characters; together with suitable principles passing from conceivability to possibility, supervenience would fail. Whatever one might think of conceivability–possibility principles, it is important to note that this argument at best threatens reductive versions of representationalism: if one regards it as inconceivable that there could be consciousness without awareness of phenomenal character, one might do better to accept a nonnaturalistic conception of representation than to give up the consciousness–representation link.

REPRESENTATION IN THE COGNITIVE SCIENCES

It would not be far-fetched to say that the cognitive 0150.048 sciences are only the study of computational operations on mental representation. The Chomskian revolution in linguistics began with the recognition that the (or at least a central) goal of linguistics is the study of the means by which the mind determines the semantic, syntactic, and phonological properties of sentences by running computational operations on mental representations of the properties of those sentences. Marr's influential work on vision regards as the goal of the study of vision determining which operations must be performed

on representations stemming ultimately from retinal stimulation, in order to generate representations of the properties of seen objects which have enough features to enable vision to do what it seems to do.

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Glossary

Phenomenal character The phenomenal character of a mental state is what that state is like to its subject. For instance, seeing what a cherry is like differs from seeing what a banana is like but is in a certain respect similar to what seeing what a strawberry is like. Thus the former two experiences differ substantially in their phenomenal characters, whereas the latter two share similar aspects.

Representational property A mental state has a representational property just in case it has a meaning of 'content', or is about something. So for instance, if one considers how things would be were snow green, one's consideration is about snow's being green. Mental states with meanings always involve bearing a certain attitude toward the meaning: so for instance, considering how things would be were snow green is different from believing that snow is green, even though what the two states are about is the same. A representational property may thus be viewed as a pair consisting of a content and an attitude.

Representationalism The view that consciousness reduces to representation. The view is at odds with eliminativism, according to which consciousness does not exist; with dualism, according to which consciousness is irreducible; and certain forms of physicalism, according to which consciousness reduces but to non-representational properties.

Higher-order representationalism The view that a state is conscious just in case the state's subject represents the state to himself, or takes it as being a certain way. A conscious state's phenomenal character, on this view, is the way the subject represents the state as being.

First-order representationalism The view that certain representational properties are by themselves sufficient to give rise to consciousness; perhaps regardless of whether the subject represents the states with those properties to her or himself.

Inner sense theory A version of higher-order representationalism, according to which a subject's perceiving a state is necessary and sufficient for its being conscious.

Transparency A putative phenomenon according to which when subjects introspect the phenomenal characters of their own experiences, they fail to notice any intrinsic mental qualities influencing these phenomenal characters.

Recycling A putative phenomenon according to which concepts of phenomenal character are formed-by

sorting conscious mental states according to their contents, by appeal to discriminative capacities possessed in virtue of being in the states so conceptualized.

Acquaintance A nonconceptual mental relation between subject and object, which serves as the ground of the subject's possessing a demonstrative concept of the object.

Russellian theory A higher-order theory of consciousness on which acquaintance is a self-reflexive relation, and a state is conscious just in case it is a state of acquaintance.

Keywords:

consciousness; representationalism; higher-order thought; inner sense; acquaintance

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1. References – Rosenthal page nos?

2. Further reading (2nd set of refs) Shoemaker 1994a Full name of NOUS?