Overly Enactive Imagination?
Radically Re-Imagining Imagining

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Abstract: A certain philosophical frame of mind holds that contentless imaginings are unimaginable, “inconceivable” (Shapiro 2014a, p. 214) - that it is simply not possible to imagine acts of imagining in the absence of representational content. Against this, this paper argues that there is no naturalistically respectable way to rule out the possibility of contentless imaginings on purely analytic or conceptual grounds. Moreover, agreeing with Langland-Hassan (2015), it defends the view that the best way to understand the content and correctness conditions of non-basic, hybrid imaginative attitudes is to assume that basic sensory imaginings are enlisted to play many different kinds of cognitive roles depending on the surrounding contentful attitudes that imaginers adopt toward them. Finally, it argues that when it comes to understanding how pure, basic sensory imaginings do their explanatorily important work there is every reason to focus on the properties of such imaginings that enable appropriate interactions and exactly no reason for thinking that representational contents are amongst those properties.
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“we often discover that nature confounds our intuition …
The lesson is a salutary and humbling one,
and it leaves many scientists with a sense of awe …”

— Brian Cox and Jeff Foreshaw

1. Naturalist Rules of Engagement

In promoting the idea that minds fundamentally interact with rather than represent the world, radically enactive, embodied and ecological approaches to cognition – REC, for short – claim to offer genuine alternatives to traditional, cognitivist ways of conceiving of cognition (Thompson 2007, Chemero 2009, Hutto and Myin 2013). Yet is it coherent to conceive of cognition in fundamentally non-representational ways? Is such a revolution in our thinking about thinking imaginable? Is any such attempt inherently confused? Some have come close to claiming this: they hold that that it is simply unthinkable that cognitive science might abandon the notion of mental representation (Aizawa 2014, Shapiro 2014a, 2014b). In its strongest form defenders of this view maintain that conceiving of cognition in the absence of representational content is impossible. Such a view is entailed by the thesis that cognition involves content necessarily; viz. that cognition must always and everywhere involve content. Call this thesis CIC, for short.

For anyone persuaded of CIC the very idea of truly alternative ways of conceiving of cognition is a non-starter. Consequently, the very best contribution enactive, embodied and ecological approaches might make to cognitive science would be to offer tools for adjusting and revising some limited aspects of our thinking about cognition. E-approaches may help us to tinker around the edges of our existing models of cognition, for example, by providing new ways to think about the dynamics and character of cognitive processing. Yet as long as we are interested in understanding cognition itself there is no option but to retain the central notions of the classical conception: information processing and representational content (see Shapiro 2014b).
Naturalists who appeal to CIC as a premise in a deductive argument designed to defeat REC commit a serious methodological foul. An analytic defense of traditional conceptions of cognition is surely not open to anyone who adopts the kind of naturalistic approach to philosophy that cognitive science demands.2 Defending, say, the truth of representationalism on analytic grounds – by appeal to CIC’s thesis about the defining feature of all cognition – is “not supported by a proper scientific outlook” (Ramsey 2014). Indeed, it is positively at odds with it. The trouble is: “You can’t treat representational posits as both interesting explanatory constructs and as a necessary condition for a legitimate account of the phenomena you are trying to explain” (Ramsey 2014). Call this Ramsey’s Rule.

Analytic defenses of representationalism that lean on the idea that we can only demarcate cognition in CIC terms therefore commit a cardinal methodological sin: they attempt to violate Ramsey’s Rule. And, as Ramsey (2014) observes this attempt has the bad consequences of:

1. Unnecessarily restricting our theorizing about cognition;
2. Undermining the empirical nature of the representational theory of mind;
3. Encouraging substantial weakening of the notion of representation.

Even if REC could be ruled out from the armchair any such a victory for traditionalists would surely be a hollow one. To defeat REC in that manner would be to sacrifice a win that demonstrates the substantive, superior explanatory power of deploying the classical notions for a win by analytic stipulation. The only naturalistically respectable way to defeat REC is to give it its day in the court of inference to the best explanation. Doing so requires actively investigating, in an open-minded way, the extent to which any kind of cognition might be best understood as contentless. REC’s fate depends on showing it is possible to understand at least some bona fide kinds of cognition in a contentless way, minimally without loss of any explanatory power and maximally with some real explanatory gains.

Many are skeptical about REC’s chances in this contest. Such skepticism finds voice in the scaling up objection that is regularly laid at REC’s door. The scaling up objection allows that there could be bona fide contentless forms of cognition in principle but it holds that the extent of such cognition is, in fact, very limited or, non-existent. REC will be pushed entirely off the board – and not just to its edges – if it is established that positing representational content is minimally required for adequately understanding any and all forms of cognition.

Looked at in this light, what is the current state of the game? The outcome is far from settled. For example, it is now very much a live question whether perception can be best understood in REC terms.3 Indeed some theorists already concede that REC might be right about this important portion of
the cognitive pie – viz. that REC provides an adequate account of basic cases of perceiving. Despite movement on this front, many hold that REC has inherent limitations and that some version of CIC is needed to understand cases of cognition in which what is thought about is not present – as in paradigmatic instances of dreaming, imagining, planning and deliberating.

Making precisely this assessment, Clowes and Mendonça (2015) predict a pluralistic future for cognitive science in which it needs to divide up its labours. By their lights REC approaches are well suited for understanding those forms of cognition in which what is thought about is immediately accessible, whereas CIC is needed for understanding forms of cognition that require dealing with items of thought that are less immediate, wholly absent or non-existent. Employing the treacherous and ill-understood on-line/off-line distinction, their motivating thought could be formulated in the following way: while basic on-line perceiving might be content-free, representational content is needed for understanding off-line cognition. If the assumptions that motivate this proposal are true it offers a neat and principled way of carving up the task of understanding cognition: Some types of cognition, e.g. perception, are best dealt with by REC, while other types of cognition that involve neural re-use and decoupling, e.g. imagination, are best dealt with by CIC.

The mere fact that this proposal is so intuitively attractive ought to make us mindful of violating Ramsey’s Rule. There is an easy argument for the conclusion that certain forms of cognition must be understood in CIC terms. It employs a simple logic: Contentful representations are necessary for thinking about things that are absent or non-existent – things that are not, or cannot be, objects of immediate perception. Why? Because thinking about what is absent just is to represent contentfully. To think of the presence of something in its absence is just what it means to represent something.

Watertight arguments like this come at a price. No substantive grounds are supplied for doubting REC’s capacity to understand such allegedly representation-hungry cognition: its ability to do so ruled out by stipulation. Deploying the presence-in-absence criterion as a means of securing the truth of CIC about these forms of cognition is yet another move from the analytic playbook. To argue, from the armchair, that cognition about what is not immediately perceivable entails the existence of representational content does exactly nothing to show why positing representational content is needed in order to substantively understand such cognition.

There is a naturalistically respectable way to defend Clowes and Mendonça’s (2015) insight about where to draw the line. It is to demonstrate that representational content features in the best accounts of cognition concerning cases of presence-in-absence. Focusing on the most basic form of such cognition it has been argued, in a negative voice, that an enactive approach to mental imagery “is unworkable unless it makes appeal to representations” (Grush and Foglia 2011, p. 36). To make fully good on such anti-REC claims requires specifying precisely what kind of substantive explanatory role representational contents putatively play in understanding mental imagery. Such a justification, it might be thought, already exists in the form of Grush’s (2004) emulator theory of representation. Grush’s theory posits the existence of devices called emulators – devices that provide feedback to and
help control a given cognitive system by implementing input-output functions that are the same or very similar to those of the controlled system (See Grush 2004, pp. 378-9). REC would be shown to be false if emulators are part of the best explanation of mental imagery and the detailed account of how they work turns out to involve the manipulation of representational contents. On the face of it, it looks as if the second condition will be met. Some versions of emulator theory take it that emulators involve the production of efference copies of motor commands and that the efference copies in question “inherit their representational contents from the motor commands that they are copies of” (Mandik 2005, p. 293, see also Grush 2004, p. 377).

Interestingly, such an outcome might well show that REC is entirely false – and not merely, as Clowes and Mendonça (2015) suppose, that it is unable to shed light on forms of some types of cognition. Things would be sweepingly bad for REC if a content manipulating version of emulator theory is true and “perception, including visual perception, results from such [emulator] models being used to form expectations of, and to interpret, sensory input” (Grush 2004, p. 377).

This view has become popular in the wake of growing interest in the predictive processing proposal about how the brain does its primary work. Predictive processing accounts paint a vision of perception that assumes:

a rather deep connection between perception and the potential for self-generated forms of mental imagery … Probabilistic generative model based systems that can learn to visually perceive a cat (say) are, ipso facto, systems that can deploy a top-down cascade to bring about many of the activity patterns that would ensue in the visual presence of an actual cat. Such systems thus display … a deep duality of perception and imagination. The same duality is highlighted by Grush (2004) in the “emulator theory of representation,” a rich and detailed treatment that shares a number of key features with the predictive processing story (Clark 2013, p. 198, emphases added).

REC would not be threatened if all perceiving turns out to be imaginative such that even the most basic kinds of perceiving are always infused with imaginings. REC would be in trouble if it turns out that representational contents feature in the best account of such phenomenon. Indeed, it would be game over for REC if basic instances of perceiving turn out to be fundamentally content involving because they centrally involve imaginings that are contentful.5 Hence, when it comes to deciding how best to account for mental imagery the stakes for REC are pretty much all or nothing.

In this light, it may be no accident that Shapiro (2014a) issued a pivotal challenge to REC with respect to its lack of an account of basic imagining. He deems REC to be unfit of providing such an account because, in shunning representational contents, it lacks the resources for understanding how we manipulate mental images to solve cognitive tasks such as the Tower of Hanoi puzzles. Naturally, such an explanation will be out of REC’s reach so long as it is assumed that this type of problem solving requires having:
thoughts with the content ‘small disc’, or ‘medium disc’, or ‘large disc’. I do not need to manipulate the actual discs, because I have representations that, at least momentarily, serve as well (or almost as well). Hutto and Myin do not tell us how these stories might get told without appealing to content (p. 215).

Answering Shapiro’s challenge requires telling the mental imaginings story in REC terms, thus providing an explanatorily adequate account of basic imagining without content. However, before taking up the challenge, it is crucial to get clear about the contested notion of content that lies at its heart. REC opposes that idea that basic perceiving and imagining involve representational content – where, canonically, the notion of representation content assumes the existence of some kind of correctness condition such that the world is taken (‘said’, ‘represented’ or ‘claimed’) to be in a certain way that it might not be in.

It is not unusual for analytic philosophers to assume that representational content equates to propositional content. Brogaard (2014), for example, tells us that:

Perceptual experience is accurate or inaccurate. If it’s accurate, it’s accurate in virtue of some proposition p being true. If it’s inaccurate, it’s inaccurate in virtue of some proposition p being false. But that proposition p just is the content of perceptual experience. So perceptual experience has content (Brogaard 2014, p. 2, emphasis added).

Despite this, the notion of representational content is elastic enough to cover the idea that correctness conditions for content might be understood in terms of accuracy, veridicality or some other kind of satisfaction condition, if these can be distinguished from truth conditions (see, e.g. Crane 2009, Burge 2010). However, the notion of representational content is not so broad as to include every notion of content that abounds in the philosophical literature. For example, it does not automatically include what is sometimes called phenomenal ‘content’. It cannot be taken for granted that to enjoy an experience with a certain kind of phenomenal character is to be in a state of mind with representational content. A great deal of argument would be needed in order to establish such an identity. In a similar vein, it cannot be simply assumed, that standing in a cognitive relation to certain objects and states of affairs – the items and situations to which a perceiver or thinker extensionally relates – entails being in a state of mind with representational content. Some philosophers apply the word ‘content’ to any object of perception or thought. But in this case too a great deal of argument would be needed in order to establish that the sorts of things we can perceive or think about in extension just are representational contents (for a fuller discussion of this point and the possible conflagrations it encourages see Hutto 2015).
In any case, many theories of the imagination make use of the notion of representational content in exactly the restricted sense that is of concern to the REC-CIC debate. Nichols (2006), for example, tells us that cognitive scientists and philosophers of mind agree on at least two fundamental claims about the nature of the imagination. Crucially, they take it to have representational content: “To believe that p is to have a ‘belief’ representation with the content p. Analogously, to imagine that Macbeth is ambitious is to have an imaginational representation with the content Macbeth is ambitious” (Nichols 2006, p. 8). Second, they take the capacity for imagining representational content to be “a basic part of human psychology” (Nichols 2006, p. 9).

REC opposes CIC accounts of the imagination that combine these two claims. Yet the disagreement is complex. REC does not deny that some forms of imagining possess representational content; it denies that all imaginings do. Specifically, REC denies that the most basic and primitive varieties of cognition have representational content. The appropriate focus for the REC-CIC debate about basic imaginings is not therefore whether propositional imaginings have representational content, but whether all sensory imaginings – e.g. cognition that involves the formation of mental images – have representational contents. To be meaningful, this debate needs to center on whether representational contents actually play a substantial part in accounting for how imaginings do their important cognitive work of enabling creative feats of planning; practicing and executing perceptual-motor tasks; producing works of art; developing novel technologies; and so on.

2. Trouble in Mind. Imagine that!

Defenders of CIC accounts about basic imaginings need to establish that the putative representational contents of such imaginings play a substantive explanatory role in our cognitive lives. This will be an uphill struggle because it is not even clear how such imaginings could have content. Langland-Hassan (2015) neatly sums up the situation: “Much of what has been said about sensory imagination conflicts with the idea that imaginings have substantive correctness (or veridicality, or accuracy) conditions at all” (p. 2). If this analysis is sound then defenders of CIC accounts of basic imaginings are already on the back foot when it comes to understanding this fundamentally important cognitive phenomenon. Indeed, it looks as if the two standard positive proposals for understanding the representational content and correctness conditions of sensory imaginings – ‘as-present’ and ‘as-possible’ views – are complete non-starters. What are these views and what precise problems do they face?

The as-present view holds that the content and correctness conditions of sensory imaginings derive from perceptions and are essentially the same as they would be for perception. Accordingly, imaginings are like perceivings in that they strive to tell us how things presently stand with the world. This view about the content of imaginings is encouraged by the thought that imaginings just are perception-like experiences that occur in the absence of the things imagined. It may be further encouraged by the fact that basic sensory imaginings are closely related to perceivings in a number of
important ways. Not only do both exhibit a similar phenomenology, it has been discovered that: perceiving and imagining use substantial parts of the same neural pathways but have different inputs and outputs; the core stages of the processing are similar in structure and function; and imagining is evolutionarily parasitic on perception (Currie 1995, Slotnick, Thompson and Kosslyn, 2005).

These facts lend initial plausibility to the simulation of perception hypothesis of imagining, which holds that basic imaginings are, or centrally involve, perceptual reenactments (Currie and Ravenscroft 2003). This simulation theory of re-creative imagining is attractive because it holds out hope of explaining why imaginings are in many ways similar to perceivings and yet still different from them in others (e.g. vivacity). The best explanation of these facts may well be because imaginings only simulate perceivings but do not replicate them exactly. This hypothesis is plausible because of the considerable, but still only partial, overlap in neural processing paths exploited by both perceiving and imagining. The simulationist idea gains support from its fits with the general finding that the brain often re-uses its neural apparatus to do various distinct kinds of cognitive work (Anderson 2010, 2014).

None of these observations entail the idea that perceivings and basic sensory imaginings have essentially the same kind of content and correctness conditions. All of the above could be true even if perceivings don’t have any kind of content and correctness conditions at all. That is good news for fans of the simulation hypothesis about basic imaginings since there are serious problems with the idea that sensory imaginings carry content that is only correct (true, accurate or veridical) when imagined properties and objects are in fact present and bring about the imaginings in the right kind of way. What’s the problem? The root issue is that what is imagined is rarely, if ever, present and causing such imaginings in the right kind of way. That being the case, if adopted, the as-present view of imaginative content would have the disastrous result that almost all imaginings almost always misrepresent. Defenders of the view are thus left in “the awkward position of positing a useful cognitive faculty that continually issues in misrepresentations” (Langland-Hassan 2015, p. 8). When it comes to thinking about the explanatory power of sensory imaginings, it seems the right thing to conclude from this is that they “have an important role to play in successfully guiding behavior. But it is not the same role as perceptual experience” (Langland-Hassan 2015, p. 6).

The as-possible view fares no better. It maintains that imaginings only represent various scenarios as possible (Yablo 1993).⁸ Accordingly, imaginings only represent situations as being possible – and not as present or even as actual. There are a number of senses in which the imagination might represent things and situations as being possible. Situations might be construed as being nomologically, metaphysically possible, or merely logically possible. But for most of the tasks that we rely on basic imaginings to perform none of these senses of possibility will do. The root problem is that if the content of basic imaginings is construed as only answerable to what is possible, in any of the above senses, then the correctness conditions for sensory imaginings are so unconstrained that they turn out to be almost always successful.
Focusing on metaphysical possibility, Langland-Hassan (2015) illustrates the problem by considering what is required for getting it right when one is engaged in the imaginative task of determining whether a certain sofa seen at the shop will actually fit through one’s front door back home. When trying to make that determination one is not interested in nomological, metaphysical or logical possibilities. Thus:

suppose that Joe imagines the new couch he ordered fitting through his front door. When it arrives, it does not fit. The couch will have to go back. Perhaps it is metaphysically possible that the couch would fit through the door. Still, it’s going back to the store. The imagining was a failure. Our conception of its correctness conditions should reflect that fact (Langland-Hassan 2015, p. 9).

This simple thought-experiment reveals that the as-possible view of imaginative content and its correctness conditions is seriously out of synch with the kinds of work that imaginings need to do in daily life. The type of content the as-possible view assumes imaginings to have is not suited to the purpose of guiding the relevant cognitive activity. What we want from imaginings is to provide actionable guides as to what is likely to be the case with respect to specific scenarios. In being far too open, the as-possible view suffers from the opposite affliction that plagues the as-present view. For, on the as-possible view, imaginings are almost always correct, and hence their putative contentful properties are quite disconnected from most uses to which they are standardly put. The as-present view has a contrasting problem: imaginings are almost always false despite being in general very useful. Noting these explanatory gaps, Langland-Hassan gives a stark but astute assessment of these standard offerings:

On either view, the correctness conditions of imaginings do not track the things they ought to track — things like the helpfulness of an imagining to guiding one’s action and achieving one’s goals. The successes and failures of imagination, on these views, are not substantively linked to the cognitive work that imaginings actually do. The result is that the content and correctness conditions attributed to imaginings are divorced from the functional role they play in the broader cognitive economy (Langland-Hassan 2015, p. 2, emphasis added).

In light of the failure of both the as-present and as-possible views, one option is to give up on the idea that imaginings represent anything at all. This view has supporters. Searle (1983), for example, argued that imaginings, as a class, lack a direction of fit (Searle 1983). Accordingly, imaginings might be understood as silent about how things stand with the world, they are — to borrow McGinn’s (2004) phrase — neutral about reality (p. 21). However, there are other possibilities to explore before going down this extreme path.
3. A Hybrid Pluralist Solution: Two Takes

There is another, more fruitful way to understand the content and correctness conditions of our imaginings, one that is sensitive to the specific tasks imaginings help us to perform. Langland-Hassan (2015) encourages us to go pluralist and hybrid in our account of imaginings. His leading pluralist thought is that imaginings can be entertained under various attitudes for variety of intended purposes. A combined package of content and attitude determines the distinct correctness conditions for any particular act of imagining. The fundamental mistake of the standard theories examined in the previous section is that they try to understand imaginings as a homogenous class “when conceiving of their content, attitude, and satisfaction conditions” (Langland-Hassan 2015, p. 11).

Things look more promising if we think that basic sensory imaginings are enlisted to play many different kinds of cognitive roles depending on the surrounding attitude that imaginers adopt toward them. When they are put to such work imaginings form part of hybrid states having “both imagistic and non-imagistic components” (Langland-Hassan 2015, p. 3). Specifically, the first component will be some kind of sensory image and the other, quite distinct, component is “transferred from one’s intentions” (Langland-Hassan 2015, p. 12). When combined, these components form a single imaginative attitude – with its own specific content, correctness conditions and cognitive role. Crucially, the proposal is that with “both components in play it is possible to understand how imaginings have non-trivial correctness conditions” (Langland-Hassan 2015, p. 16).⁹

Langland-Hassan (2015) provides some choice examples of hybrid imaginative attitudes, focusing on just two main types, which he dubs judgement imaginings (JIGs) and episodic memory imaginings (EMIs). His purpose is to show how his pluralist solution is meant to work, making clear that the same tools can be used easily in order to understand a plethora of other imaginative attitudes.

He gives two examples of JIGs. JIGs are imaginative attitudes in which sensory images are put to work in the context of specific judgments. To illustrate, Langland-Hassan (2015) imagines the plight of Avery who, having never travelled to Paris, has been misled by images of the Arc de Triomphe into picturing it as silver in colour. For this reason when she adopts a judging attitude toward a sensory image of the Arc (as picked by the words in CAPS in the following content clause) she forms the JIG that: The Arc de Triomphe is: A BIG SILVER ARCH. This, as the well travelled know, is false. But importantly it is only the combined content and Avery’s intended use of the image that makes her imaginative attitude false, and indeed as something that could be true or false. Moreover, we can easily suppose that Avery might harbour a quite different intention and engages in another sort of imaginative exercise even while directing her attention at the very same image. She might, for example, try to imagine what the Arc de Triomphe would look like if it were silver, where she is, this time, under no illusion about its actual colour. In such a case, the compound content of her JIG – The Arc de Triomphe painted silver would be: A BIG SILVER ARCH – hits its mark; this JIG is true.
Other sorts of complex imaginative attitudes are possible. Langland-Hassan (2015) gives another example of an episodic memory imagining, an EMI. Avery might adopt a retrospective attitude on her journey home after her first visit to see the Arc de Triomphe. She might endeavor to recall how the Arc de Triomphe actually looked when she encountered it on the Champs-Élysées. Let us assume that the combined content of her EMI is that: The Arc de Triomphe was: A LARGE WHITE ARCH. Assuming that history favours her (e.g. that Avery has actually been in Paris and seen the correct monument, and so on) and that the image she forms captures the features of its target well enough. In that case we can say that Avery has remembered successfully, her EMI is true.

There is much to admire about Langland-Hassan’s (2015) positive story. Compared to the manifest shortcomings of its rivals, his hybrid account seems to provide an adequate account of the different kinds of content and correctness conditions that different imaginative attitudes have. The point, and beauty, of positing hybrid imaginative attitudes is “that we need not double our work by trying to answer these questions about representation in new ways for imagistic states” (Langland-Hassan 2015, p. 17). The two-component story is an attractive and appropriately flexible way of understanding how sensory imaginings can have any correctness conditions. Crucially, the account is perfectly in step with the specific roles imaginings seem to play in a diverse range of everyday cognitive tasks.

Although Langland-Hassan’s (2015) hybrid account is structurally sound and well motivated in these respects there are reasons to question whether the sensory image component of imaginative attitudes needs to be, or should be, thought of as contributing any kind of content to composite imaginative attitudes. Indeed, the very reasons that Langland-Hassan supplies for wanting to go hybrid about sensory imaginings in the first place should make us wary of this aspect of his proposal. As we have seen there are deep problems in providing a general account of the putative content of pure sensory imaginings understood in isolation from surrounding, discursive attitudes and intentions that support and scaffold such images. Lacking any such general account ought to make us cautious about simply helping ourselves to the idea that a pure, basic sensory imagining, taken as a proper part of a more complex imagining, makes an isolated contentful contribution to that whole.

Langland-Hassan (2015) is well aware that any contentful contribution pure sensory images might make would be quite limited. He admits that it is difficult to explain how, own its own, a pure sensory image can be ‘of’ or ‘about’ or ‘refer’ to particulars (other than, perhaps, its causal source), or how a pure sensory image can be about the past, present, or future. It is for these reasons that he holds that the contents of pure sensory images should be thought of as being like indefinite descriptions. This is also why the same image can be used in so many different ways in hybrid imaginings (see Langland-Hassan 2015, pp. 16-17).

Indeed, it is because pure sensory imaginings are known to be limited in just these ways that it is necessary to go hybrid. The proposed hybrid solution works “by pushing some of the burden of explanation onto non-imagistic, discursive thought … Specifically, the involvement of non-imagistic
contents is important to explaining the ability of imaginings to be about different particulars, to represent counterfactual scenarios, and to be about the past, present, or future” (Langland-Hassan 2015, p. 17).

Still, despite all of these limitations, Langland-Hassan (2015) presupposes that even in isolation sensory imaginings must have and contribute some kind of content, however indeterminate and ambiguous in character it may be. Why suppose this? Why not assume that the discursive component does all of the work in making the hybrid attitude representationally contentful? After all, there is a long tradition of assuming that sensory images only have resemblance properties of a kind that are neither necessary nor sufficient for representational content (see Fodor 1987, ch. 4). Those considerations are not knockdown. After all, it could be argued that images do carry content after all if, for example, sensory images are just the vehicles for contents that have an independent source (For a discussion see Nichols 2006, p. 2). That is surely a possibility, but there is no compelling reason to believe such a story in the absence of a credible (and ideally robustly naturalistic) account of how basic sensory images get this putative content.

More to the point, there seems no reason to provide such an account. For even if basic sensory images lack content this would be no bar to their playing precisely the sort of roles in imagination that Langland-Hassan (2015) identifies. We can put a REC twist on Langland-Hassan’s story if we assume that contentful attitudes scaffold contentless basic sensory images. This REC adjustment to the hybrid story ought not to threaten structural collapse. All that it required is that it is possible for discursive components to frame non-contentful sensory images such that the resulting product of such a union is a single complex imaginative attitude with genuine representational content and correctness conditions.

4. Basic Imaginings at Work: When REC met MET

To complete REC’s account of basic imaginings what is needed are details of the kind of work basic sensory imaginings, those that entirely lack representational content, might do and how it might be done. Considering what might be minimally needed in order to explain hominin tool-making capacities is a good way to think about the kind of work contentless sensory imaginings might do even in isolation from contentful attitudes.

It is well known that the hominins of the Middle Paleolithic had truly impressive tool-making abilities that would have required considerable cognitive sophistication. For example, fashioning the Levallois flake – the pinnacle of stone-age tool making – required the special selection and careful crafting of stone flakes that would fit within other stones to form composite artifacts. The production of such complex tools demanded working with sensitive materials, which if mishandled would split and fragment, becoming useless. Worse, such materials were not ready-to-hand; they had to be
sought, gathered and collected from distant sites, requiring toolmakers to engage in advance planning and to have good memories.

It is plausible that basic sensory imaginings played a part in enabling hominids to engage in the kind of mental rehearsals needed for collecting and manipulating materials in their tool-making industries (see Hutto 2008, ch. 11). Basic sensory imaginings would have made it possible, for example, to remember, and thus find, items that looks like this, and to fashion flakes by carefully knapping a stone this way not that. Crucially, imaginative capacities are likely to have been important in enabling toolmakers to practice, rehearse and refine the perceptual-motor manual skills needed for the creation of such specialized artifacts.

What makes the case of hominin tool making a useful focus for our purposes is the additional fact that even if hominids enjoyed some kind of primitive proto-language they would have lacked anything remotely like the sophisticated practices involving public representations that is a staple feature of modern human societies. In particular, our hominid forebears could not have framed their cognitive activities in the sorts of explicitly, discursive ways that we can thanks to our facility with natural language.12

Even so, the cognitive demands placed on both us and hominins by such tasks are not likely to be significantly different. Consider the plight of today’s cognitive archeologists and anthropologists who attempt to learn to fashion tools in the same way that hominins originally did in their attempts to get into the minds of our forebears. Mastering the tool-making craft in this way requires learning how to make such stone tools without relying on anything like publicly accessible diagrams, templates or linguistically articulated sets of explicit instructions (that hominins operated in a world of devoid of such public representations). Nevertheless, modern humans can learn to fashion such tools without such supports, and in doing so we can reasonably assume that they are employing much the same basic imaginative capacities that hominids would have brought to bear on such tasks.

It surely seems possible to explain the kind of cognitive activity involved in such tasks fully in REC terms without positing the manipulation of content-bearing mental representations. Making much of enactivist ideas, Material Engagement Theory, or MET for short, sees “early stone tools as enactive cognitive prostheses capable of transforming and extending the cognitive architecture of our hominin ancestors” (Malafouris 2013, p. 164). MET agrees with REC in placing all of the weight on interactions as driving the cognitive activity needed for tool making. Thus, “The force and angle of knapping are parts of a continuous process and thoroughly temporal web of interactions that ‘involve’ complex feedback between limbs, objects, the visual sub-system, and the acoustic sub-system” (Malafouris 2013, p. 176).

Crucially, MET, like REC, reverses the familiar cognitivist order of explanation: “Stone tools are not an accomplishment of the hominin brain, they are an opportunity for the hominin brain – that is an opportunity for active material engagement” (Malafouris 2013, p. 169). Understood in interactive as
opposed to representationalist terms, the intentional attitudes that are part of tool making practice do not so much as stand outside and frame the activity, so much as emerge from within it.

The directed action of stone knapping does not simply execute but rather brings forth the knapper’s intention. The decisions about where to place the next blow and how much force to use are not taken by the knapper in isolation they are not even processed internally. The flaking intention is constituted, at least partially, by the stone itself. Information about the stone is not internally represented and processed by the brain to form the representational content ... (Malafouris 2013, pp. 173-4, emphases added).

In these sorts of cases intentions are nothing like contentful guides to action that can be teased apart from the latter, rather they are inseparable from and found within embodied activity. In this case they emerge through interacting and engaging with the material over time. Thus “the locus of early human thoughts stays with the body rather than within the body” (Malafouris 2013, p. 174). Here it is important to remember “The hand is not isolated from the brain” (Tallis 2003, p. 34). But equally, we must not downplay the fact that hands are not isolated from the objects that they manipulate.

Even if this much of the REC-cum-MET story is accepted, it might be wondered if this can be the whole story. As Malafouris (2013) himself notes, even though deliberate, contentful planning is not involved in such tasks, the activity of tool making involves “a great deal of approximation, anticipation, guessing and thus ambiguity about how the material will behave” (p. 176).

At this juncture a worry foreshadowed in the first section of this paper returns to challenge the REC-cum-MET proposal. The worry is that even the most fully engaged, enactive forms of cognition are always infused with imaginings that are needed to inform anticipatory behavior and to guide, or at least adjust, any intelligent engagements. Ultimately, this is why Foglia and Grush (2011) claim “the enactive approach to imagery is unworkable unless it makes appeal to representations” (p. 36). Importantly, however, Foglia and Grush’s (2011) dim assessment of REC’s prospects in this domain is more nuanced and specific than just presented. Their full statement makes clear that “the enactive approach … is unworkable unless it makes appeal to representations, understood in a particular way. Not understood as pictures, to be sure. Or sentences for that matter. But those aren’t the only options” (Foglia and Grush 2011, p. 36, emphasis added). The option they prefer is to understand representations as inner models, where “something, M, is a model of X (for some agent A) if A can use M as a stand-in for X” (Foglia and Grush 2011, p. 42).

Why the need for inner models? Focusing on Shepard and Cooper’s (1982) mental rotation tasks, Foglia and Grush (2011) consider a situation in which a person is presented with two shapes and must decide if they are congruent. Let us assume that the problem is solved by basic sensory imaginative means. Foglia and Grush (2011) argue that purely simulation-based accounts of such imaginings – which can be easily given a REC treatment – are explanatorily incomplete. Purely simulation-based
proposals about the imaginings run into trouble because in focusing exclusively on how embodied activity might be recreated they fail to provide an account of surrogates for objects that also need to be manipulated. This won’t do since, they argue, the latter also play a central role in the completion of the relevant tasks.

Foglia and Grush (2011) argue that any adequate account of such basic imaginings minimally requires positing at least two distinct components: one that stands in for the embodied activity in question (e.g. manual grasp and a counterclockwise hand rotation) and one that stands in for the object that the activity is directed towards (e.g. a sheet of paper with the relevant shape printed on it; a stone flake in that shape). Their claim is quite plausible: embodied activities and manipulated objects appear to be quite distinct and substitutable components in such basic imaginative tasks. Different tasks might involve the same objects, but different actions and vice versa.

Consequently, it seems likely that in such tasks when basic sensory imaginings are used in the absence of overt models a surrogate for the object in question will be used to help solve the relevant tasks. On the assumption that these surrogates are mental models it follows that positing the existence of mental models is needed for a complete account of at least some basic acts of sensory imaginings.

Let us assume for the sake of argument that this is all true – viz. that the best explanation of how certain problem solving tasks are completed by means of basic sensory imaginings involves the manipulation of mental models of some sort. What follows for REC? Notably, Foglia and Grush (2011) concede that “action is still of central importance. What makes the model a representation is precisely that it can be interacted with in a certain way. So this theory shares a central commitment with the enactivist camp” (p. 9, emphasis added). Indeed, apparently what “most compellingly suggests that they are representations is that we can engage with them … in a manner analogous to how we engage with the [modeled] object or scene” (Foglia and Grush 2011, p. 8, emphasis added).

Nevertheless, what makes the account offered by Foglia and Grush (2011) seemingly at odds with REC is their insistence that “in all cases, the crucial factor is that something is being used as a surrogate, a model, for something else, and hence represents that something else” (p. 9, emphasis added).

Of course, this CIC conclusion only follows if using something as a surrogate for something else counts as using it as a representation. For some, it may be that this just is what it means to represent, in which case the argument is won trivially. But, as the earlier discussion of Ramsey’s Rule forewarns, we should be wary of this sort of definitional move. It is also not at all clear how we would decide whether such a definition is appropriate. As Rowlands (2014) observes, when framed in standard, unspecified ways – where terms are not agreed in advance – there is no practical or theoretical utility to debating whether a given phenomenon with a certain profile (e.g. lawful covariance, biological functionality, simulation, resemblance, and so) qualifies as representational or as playing a representational role. Such debates will only become interesting if there a compelling
reason for thinking that any one of the many possible phenomenon that might be deemed representational is the proprietary one.

In any case, our question is not the ill-posed question of whether models, inner or otherwise, count as representations simpliciter; our question is whether models have representational contents that do any interesting work in enabling basic imaginings to do their jobs. The question that must occupy us is: what explanatorily relevant properties do mental models have? Are such models best understood as carrying representational contents or will it suffice for them to perform their offices if they are merely relational? Do they automatically exhibit ‘reference’ or in their basic form do they only possess ‘ofness’? Do they ‘stand for’ something, or do they only ‘stand in for’ something or do they only ‘stand in relation to’ something? Or, we might ask: Do such models have semantic properties? Do they have content? And, if so, what role does their representational content play in enabling them to function as surrogates? In sum, even if models play a crucial part in enabling us to understand certain important kinds of basic sensory imaginings, this – by itself – this gives us exactly no reason to think that representational content plays any role in understanding or explaining the functionally important properties of basic sensory imaginings.  

In sum, it may be that using basic sensory imaginings to complete cognitive tasks sometimes involves engaging with surrogate models that exploit systematic structure-preserving correspondences (e.g. certain resemblances) that hold between features of an imagined item and features of some modeled item. It is plausible that the use of such surrogates makes it possible to respond intelligently even in the absence of modeled items. Even if all of this forms part of the best explanation of how imagined models enable the completion of cognitive tasks, it is important to recognize that such success only depends on: certain correspondences holding between the model and the modeled and the imaginer’s systematically engaging with the model appropriately because such correspondences hold. What does not seem to be required, and no argument has been supplied to suggest otherwise, is that imaginers need to ‘take’ such correspondences to hold, or that imaginers must make any conceptual or symbolic attributions to that effect.

Contrariwise, by focusing on interactions throughout instead of contentful representations the REC-cum-MET position provides a better way of understanding how basic imaginative capacities, including those that involve imaginary models, are appropriately linked to the world in task-relevant ways. REC-cum-MET predicts that the way imaginers engage with surrogate models is likely to be strongly constrained by the ways they engage with the kinds of things that are modeled and vice versa. This is why we can expect the pattern of engagements to become more refined as they change dynamically over time. In getting beyond the constraining idea that the main job of cognition is to represent how things are or might be, we can better understand how basic imaginings play an interactive part in the development of manual skills such as tool making.

5. Conclusion
There seems to be no naturalistically respectable way to rule out a REC account of the imagination on purely analytic or conceptual grounds. Moreover, when we look closely REC seems to give reasonable answers to the question of the explanatorily important work that imaginings do, both in purely basic and more sophisticated hybrid cases. This is so, even if it turns out that modeling of some kind, and not just simulative re-enactment, is required in order to complete certain cognitive tasks by basic imaginative means. The important feature of the hypothesized models is how imaginers interact with them in order to complete cognitive tasks. It is not clear, and we have been given no reason to believe, that such models possess representational content. Worse, it is even less clear what work such representational content could be doing to enable the appropriate interactions, even if any such content should exist. Thus even if we allow that mental models may play an important part in the future of cognitive science it does not follow that positing representational contents and correctness conditions for such models will help us to understand how basic sensory imaginings execute their important cognitive offices.

References


Notes

1. The need to assume CIC’s truth drives Shapiro (2014a) to remark that “embodied cognition, of which enactivism is a species, … remains … compatible with a representational characterization of the mind. … Indeed, if it did not, I am not sure how it could be a science of the mind rather than, say, behaviour” (Shapiro 2014a, p. 219). Employing similar reasoning, Aizawa (2014) argues that when RECers claim that at its base cognition might be contentless they cannot really be offering a proposal about cognition but must only be using ‘cognition’ “as a term for (a type of) behavior” (Aizawa 2014, p. 21).

2. If CIC is analytically true then REC is just not a subjunctive possibility. But how do we know that CIC is analytically true? The well-known problems surrounding attempts to naturalize content ought to caution us against assuming CIC’s truth given our current state of knowledge. Surely, as things stand, REC is at least a live epistemic possibility that deserves serious consideration.

3. There is now a lively discussion underway about whether perceiving is contentful. This is an important shift in thinking. As Brogaard (2014) observes, “Not long ago the question [“Does perception have content?”] would not even have been considered. Perhaps it would not have seemed intelligible. But things have changed, and there is now a considerable number of articles, theses, and books aimed at answering it, positively or negatively” (p. 1, emphasis added). Brogaard conjectures that the reason that the idea that perception might not have content is now being taken seriously in philosophy precisely because of the debates that are raging about whether mental representations do any real explanatory work in the cognitive sciences.

4. Clowes and Mendonça (2015) propose that fundamentally non-representational kinds of cognitive equipment might be re-used for representational purposes in such representation-hungry contexts. See Degenaar and Myin (2014) for a an extended, REC-friendly argument against the need to think of such contexts as representation hungry in the first place.

5. Machery (2009), for example, dismisses the tenability of non-representational accounts of even the most basic kinds of cognition on just these grounds: “Grush has argued that physical actions are often guided by representation of feedback … so even simple actions cannot be explained without positing representations” (p. 222).

6. For example that the contents of the world are likely not to be representational contents is not at all an unusual view. Many hold that: “Propositions are very different from states of affairs. In particular, propositions are true or false, while states of affairs are not the sort of things that can be either true or false. On many standard ways of thinking about propositions and states of affairs, states of affairs are the things that make propositions true or false” (Bermudez 2011 p. 404).
Speaking on behalf of REC, Medina (2013) makes clear that “The enactivist account … does not deny that our imaginings often involve representational capacities and representational contents — indeed, this is clearly the case in sophisticated exercises of the imagination such as watching a movie or reading a novel. But, even in these cases, the representational elements of the imagination cannot account for many aspects of the imaginative experience … there are forms that the imagination can take that do not require representational contents at all: ways of acting and interacting imaginatively without representing what one is imaginatively enacting or re-enacting” (Medina 2013, p. 318).

In fact the as-possible view of the correctness conditions of imaginings, as presented by Langland-Hassan (2015) is a variation on Yablo (1993) which holds that “to find p conceivable is to be in a state which (i) is veridical only if possibly p, and (ii) moves you to believe that p is possible” (p. 7).

On Langland-Hassan’s (2015) account hybrid imaginative attitudes qualify as sensory imaginings if they have sensory images as proper parts.

One reason for thinking that both components should be contentful is that this would help us to better understand how they could combine. If both imagistic and discursive components are contentful this might be thought to help with the problem of clashing formats: “it is generally assumed that these two formats of representation are like oil and water—they don’t mix” (Langland-Hassan 2015, p. 17). But in fact given the devil will be in the details and given that we lack a detailed naturalistic theory of content, it is hard to see how the mere fact that both elements are deemed contentful address the clashing formats problem. It remains a challenge for any theory that grants a role for imagistic thought in practical reasoning to “confront the issue of how imagistic thought—if it does indeed occur in a non-discursive, iconic format—inferentially interacts with discursive thought” (Langland-Hassan 2015, p. 18).

Langland-Hassan’s (2015) hybrid account is said to allow us to “to arrive at a workable, naturalistic account of imagination’s correctness conditions” (p. 17). It is not clear how this is so given that the field currently lacks any convincing naturalistic theory of content, and especially in light of the fact that Langland-Hassan (2015) himself does “not pretend to offer any answers” (p. 17).

It is for this very reason that hominid tool making has been held up as the clearest evidence of non-verbal mediated instrumental reasoning (Bermúdez 2003).

Embodied intentions of the kind that tool making involves are instances of extensive, and not merely, extended forms of cognition. For an articulation of this distinction see Hutto, Kirchhoff and Myin 2014.

As described Foglia and Grush (2011) depict a hybrid task – requiring a judgment imagining. The subjects must manipulate the shape in order to judge if the shapes are congruent. But we can imagine a basic version of the task that even hominids might engage in. It might be that fitting a particular flake into another stone might demand determining by imaginative means if the stone and the destined place have congruent shapes. Presumably one might engage in such an exercise, driven by the task demands, even if one lacked the concept CONGRUENT.

It is important to note that even if it could be shown that basic imaginings have representational content, a further argument would be required to show that such content isn’t explanatorily redundant; that it isn’t a metaphysical dangler.