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CONSCIOUS INTENTIONALITY IN PERCEPTION, IMAGINATION, AND COGNITION

abstract

Participants in the cognitive phenomenology debate have proceeded by (a) proposing a bifurcation of theoretical options into inflationary and non-inflationary theories, and then (b) providing arguments for/against one of these theories. I suggest that this method has failed to illuminate the commonalities and differences among conscious intentional states of different types, in the absence of a theory of the structure of these states. I propose such a theory. In perception, phenomenal-intentional properties combine with somatosensory properties to form P-I property clusters that serve as phenomenal modes of presentations of particulars. In imagination, somatosensory properties are replaced with phenomenal-intentional properties whose intentional objects are somatosensory properties, thus resulting in imaginative facsimiles of perceptual P-I property clusters. Such structures can then be used as phenomenal prototypes that pick out individuals and kinds. Sets of such prototypes constitute a subject's conception of individuals and kinds. Combined with a few additional elements, these imaginative P-I property clusters serve as the building-blocks of conscious cognitive states. Different ways of carving up theoretical space classify my theory either as inflationary or as non-inflationary. I conclude that the theory is anti-inflationary in letter but inflationary in spirit.

keywords

cognitive phenomenology, phenomenal intentionality, perception, imagination, cognition

1. Introduction Parties to the cognitive phenomenology debate disagree about much. One thing they all seem to agree about is the *method* for exploring the nature of cognitive phenomenology: first, bifurcate the space of theoretical options into the more inflationary and the less inflationary theories, and second, provide arguments for or against one of the two sides of the bifurcation. Here are four strikingly similar ways that this theoretical division has been made (two of them by inflationists and the other two by anti-inflationists):

Conservative conception: It is not the case that conscious thought possesses a distinctive phenomenal character.

Liberal conception: Conscious thought possesses a distinctive phenomenal character. (Bayne & Montague 2011, pp. 2-3).

Irreducibility: Some cognitive states put one in phenomenal states for which no wholly sensory states suffice.

Reducibility: It is not the case that some cognitive states put one in phenomenal states for which no wholly sensory states suffice (Chudnoff 2015, p. 15)¹.

Liberal view: There is a conscious, occurrent, phenomenologically present understanding that does not consist in anything imagistic and is not a change in emotional state.

Frugal view: Everything that is occurrent and phenomenologically present in such cases is either imagistic or a change in emotional state (Robinson 2011, p. 203).

Restrictivism: All mental representations that have a phenomenal character represent only sensory qualities.

Expansionism: Some mental representations that have a phenomenal character represent non-sensory qualities (Prinz 2011, p. 176)².

1 Chudnoff only specifies the first of these two theses; I am extrapolating the second.

2 This is my gloss on Prinz's more technical formulations:

Restrictivism is true iff, for every vehicle with qualitative character, there could be a qualitatively identical vehicle that has only sensory content.

Expansionism is true iff some vehicles with qualitative character are distinguishable from every vehicle that has only sensory content.

I want to suggest that setting up the debate in this way has been highly misleading. Unqualifiedly endorsing any of the above theses involves over-emphasizing or under-appreciating the commonalities between conscious sensory states and conscious cognitive states. Consider an analogy. Suppose we were asked whether automobile engineering is “reducible to” other forms of engineering, or whether there is a “distinctive” form of engineering used to design cars. In one sense, it is quite obvious that automobile engineering cannot be reduced to other forms of engineering: designing a different type of product will require a different design-process. At the same time, there may not be any elements of the automobile design process that are truly “distinctive” in the sense that no other engineers use them. Asking whether automobile engineering is reducible to other forms of engineering obscures the ways that engineering is a structured process whose components are shared among many forms. If you want to understand the nature of automobile engineering and its relationship to other types of engineering, you need to ask a different question. The purpose of this paper is to ask a different question (about cognitive phenomenology), viz.: how are conscious perceptual, imaginative, and cognitive states structured? Only as we answer this question can the similarities and differences among such states come into focus. Here is the plan: In section 2, I discuss two distinct ways that a feature can be “present in” consciousness, and the way that such features can be semantically structured to form conscious perceptual states. In section 3, I discuss the relationship between conscious perception, imagination, and memory, and the way that states of these types are used by subjects to conceive of individuals and kinds. In section 4, I turn my attention to conscious cognition and to whether the elements discussed in sections 2 and 3 are sufficient for it. Finally, in section 5, I return to the four characterizations of the debate listed above, bringing them to bear on my proposals. As we shall see, my proposals locate me closer to the anti-inflationists in letter but closer to the inflationists in spirit.

One hallmark of conscious states is that within them and/or through them subjects encounter properties and relations: colors, sounds, tastes, bodily sensations, shapes, distances, and so forth. Such features are sometimes said to have their natures “revealed” to the subject in consciousness, in contrast with other properties and relations that are represented in consciousness but whose nature remains hidden (e.g., natural kinds)³. How best to understand this revelatory encounter between subject and feature has been a matter of perennial philosophical dispute. A first division among disputants is between those who treat the subject-feature nexus as fundamentally *relational* and those who treat it as fundamentally *non-relational* or *monadic*⁴. I mention relationalism only to set it aside; in what follows I develop a version of monadicism. A second, less familiar division can be found within monadicism, pertaining to two ways that a feature can be monadically present in consciousness. One way is for the feature in question to be instantiated by the subject. Plausibly, *moods* are present in such manner: when I am

2. Conscious features and conscious perception

³ Johnston (1992) seems to have introduced the language of “revelation” into discussions of phenomenally-presented features. Note that I use the term “features” to cover properties and relations encountered in consciousness. For the sake of clarity, I restrict my usage of the term “properties” to refer to *phenomenal properties*. Some features encountered in consciousness are phenomenal properties, and some are not, as will become clear in what follows.

⁴ Philosophers in first camp, the so-called “act-object theorists”, include those who take a subject’s encounter with a feature to be a matter of the subject’s bearing a cognitive relation to a mental particular that has that feature (per the sense-datum theory), to an external particular that has that feature (per direct realism), or to a universal (per Platonism). By contrast, philosophers in the second camp, the so-called “adverbialists”, deny that no such a cognitive relation between subject and encountered object is needed. For example, for a subject to encounter redness could be for a subject to instantiate the property *sensing redly*, where this is a non-relational modification of the subject, and not a relation to an object (redness, or an instance of it).

presented with conscious moods, I am encountering *my properties*, i.e., properties that I, the subject, instantiate. On my view, all of the traditional “sensory qualities” – colors, sounds, tastes, smells, etc. – as well as all somatic qualities – pains, pleasures, and emotions – can be present in consciousness via instantiation by the subject. Call these properties “somatosensory properties”. Somatosensory properties constitute a broad class of phenomenal property (where phenomenal properties are just *ways of being conscious*).

But there is another class of phenomenal property, corresponding to the other way for features to be monadically present in consciousness. A conscious feature can be present in consciousness when *intended* – semantically pointed toward – by the subject. Compare the difference between having an itch, on the one hand, and mentally grasping what it is like to have an itch, on the other. I suggest that in the first case, the feature *itchiness* is presented to you by being *instantiated* by you. In the second case, the feature *itchiness* is likewise presented to you, but in a different way: it is *intended* by you. That is, among the constituents of your consciousness is a grasping of the feature. The property of mentally grasping the feeling of an itch is thus a phenomenal property, but it is not a somatosensory property. It is what I call a “phenomenal-intentional property”. A phenomenal-intentional property is a phenomenal property whose nature consists in the presentation to the subject of an intentional object (in the case at hand, the intentional object *itchiness*). When a subject instantiates a phenomenal-intentional property, that property’s intentional object is thereby present in the subject’s consciousness – by intention, rather than by instantiation^{5,6}.

Which features are present in consciousness via intention? In principle, any feature whatever could be. But I suspect that our conscious states are constructed out of a somewhat restricted set of phenomenal-intentional properties. The features present in our conscious states by intention rather than instantiation are those (a) whose nature we can come to understand simply by reflection, and (b) which we cannot ourselves instantiate. We can begin to identify these features via phenomenological analysis (i.e., attending to the basic intentional constituents of our conscious mental states). But other avenues of inquiry can provide assistance. For example, developmental psychologists investigate those components of our conceptual repertoire that show up very early in all normally-functioning children⁷; perceptual psychologists investigate those features of scenes that are processed first in the relevant cortical systems⁸; and cognitive linguists investigate the most basic categories with which we imbue phonemes with meaning⁹. A conservative list, compiled on the basis of convergence among these three methodological routes, includes object, agent, cause, motion, egocentric location, and some set of shape- and size-properties.

I propose that phenomenal properties of these two types – somatosensory properties and phenomenal-intentional properties – together explain both the phenomenal and intentional content of all of our conscious states, across perception, imagination, and cognition. Before I get to the details, it will be helpful to briefly acknowledge two sources of inspiration for my

5 Recently, Farkas (2013) and Masrour (2013) have proposed a strategy for *reducing* phenomenal-intentional properties to somatosensory properties. While I am skeptical that this reduction can be carried out (see Woodward [under review]), nothing I say about phenomenal-intentional properties in what follows is obviously inconsistent with the claim that the reduction *can* be carried out.

6 In *Wittgenstein on Rules and Private Language*, Kripke notes and dismisses the possibility that “a headache with a very special quality” – that is, a special way of being conscious, a special phenomenal property – explains how a thinker determinately grasps the addition-function (rather than some other function, her grasp of which would just as readily rationalize all of her behaviors). Far from dismissing this possibility, I take the possibility to be actual.

7 Cf. e.g. Kinzler & Spelke (2007); Carey (2009).

8 Cf. e.g. Marr (1982); Martin (2007).

9 Cf. e.g. Lakoff & Johnson (1980); Langacker (1991).

theory. The first is Bertrand Russell's semantic theory in "Knowledge by Acquaintance and Knowledge by Description". Russell's core conviction is that "Every proposition which we can understand must be composed wholly of constituents with which we are acquainted" (Russell 1910, p. 117). The idea here is that we can only completely understand a proposition only if we grasp the natures of all of its constituent features. But we do not grasp the natures of very many features, and of hardly any *particulars*. (On my view, we only grasp the natures of those features that are presented in consciousness, either by instantiation or by intention; Russell's view is a bit different). So in order for us to have beliefs about ungrasped features or individuals, we have to be able to construct descriptions of those features and individuals *out of grasped features*. What this means on my view is that we use a sparse set of phenomenally-presented features to form *phenomenal modes of presentation* (I here insert a bit of Fregean jargon into a Russell-inspired theory) of all the intentional contents we can consciously represent.

The second source of inspiration is Laurence Barsalou's "embodied" or "grounded" theory of cognition. Barsalou explores the possibility that we do not have two different sets of representational resources – one for perception, another for cognition – but rather that cognition amounts to the offline redeployment of perceptual-representational resources¹⁰. In what follows I will be developing a version of this idea as it applies to conscious intentionality. That is, I will be exploring the possibility that conscious cognition involves the deployment of phenomenal modes of presentation that are closely related to, and derived from, those deployed in conscious perception.

Let us begin with perception, then. In order to understand how somatosensory properties and phenomenal-intentional properties together explain conscious perceptual intentionality, we need two more phenomenal elements in the picture. The first element is a mechanism for generating semantic structure within phenomenal states. As Frank Jackson (1975) points out, semantic structure poses a problem for the monadicist: to say that a subject encounters redness, blueness, circularity and squarehood in consciousness is not yet to say that a subject is presented with a red square and a blue circle rather than with a red circle and a blue square (or simply with four distinct qualities in semantic isolation from one another). As far as I can tell, the only way to respond to Jackson's challenge is to acknowledge the presence of an additional phenomenal element that semantically links presented features. I call this element "phenomenal-intentional attribution" or "P-I attribution". P-I attribution is a monadic property instantiated by the subject, but which intentionally points beyond itself toward phenomenal features presented in consciousness (either by instantiation or by intention), in two directions: it points in one direction, toward the recipient of an attribution, and in another direction, toward the subject of an attribution.

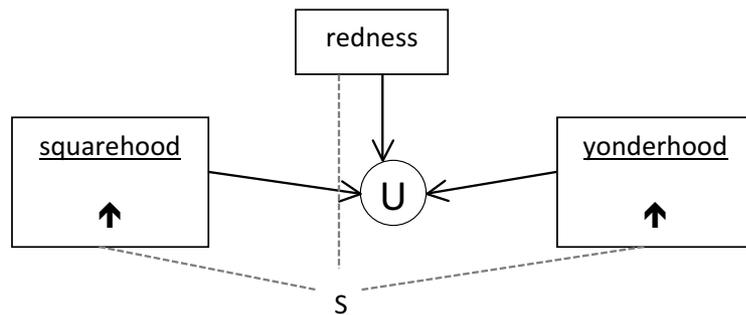
The second element is a mechanism for *particularization*. For a subject to be presented with a red square is emphatically not for a subject to be presented with redness and squarehood such that one of these is attributed to the other. Redness is not square! Rather, there must be an additional phenomenal element, to which both features are attributed, and such that both features are presented as features of a particular – the phenomenal equivalent of the "bare particulars" posited by ontologists¹¹. I call such elements "P-I units". Again, P-I units are monadic properties instantiated by the subject, but what they present to the subject are not features but bare countables as such.

Positing P-I attribution and P-I units solves philosophical-cum-semantic problems that come up for monadicism. But there are also straightforwardly phenomenological reasons

¹⁰ See Barsalou (1999), (2003), and (2008).

¹¹ Cf. Armstrong (1997).

to grant that phenomenal states frequently include them, reasons having to do with the contrast between closely related phenomenal states. First: consider the features *being ugly* and *being angry*. Now, entertain the proposition that anger is ugly. Something has changed: in the latter case, ugliness is being *attributed to* anger in your conscious state. Plausibly, your conscious state has acquired new semantic structure in virtue of acquiring a new feature (P-I attribution). Second: imagine a red object. Now, imagine a second, identical red object alongside it. Something has changed: in the latter case, the feature *redness* is presented as instanced twice rather than once. Plausibly, your conscious state has acquired new, quantitative structure in virtue of acquiring a new feature (a second P-I unit)¹². We are now able to state, in response to Jackson, what is minimally involved in a subject's having a perceptual experience of a red square: the subject is presented with redness and with squarehood; the subject instantiates a P-I unit; the subject instantiates P-I attribution in such a way that redness and squarehood are semantically connected to the P-I unit; and, finally, the subject instantiates a phenomenal-intentional property whose intentional object is an ego-centric spatial relation, such that the red square is presented as *yonder* (I will thus call this feature "P-I yonderhood"¹³). We can pictorially represent the subject's phenomenal state as follows:



(Here the encircled U represents a P-I unit; dotted lines represent the instantiation-relation; arrows represent P-I attribution. For simplicity, I have omitted lines of instantiation between instances of P-I attribution and the subject and between the P-I unit and the subject. The vertical arrows indicate those features which are present as the intentional objects of phenomenal-intentional properties, rather than as somatosensory properties instantiated by the subject). Call the whole bundle a "P-I property cluster". P-I property clusters are monadic states that present intentional contents to subjects¹⁴. The contents of P-I property clusters are triply indeterminate (1) between definite descriptions and propositions ("The red square" vs. "The square is red"); (2) between existentially quantified propositions, demonstrative propositions, and atomic propositions ("There is a red square" vs. "That square is red" vs. "The square is red"); and (3) regarding what is predicated of what ("The red thing is square" vs. "The square is red").

12 I suspect that P-I attribution and P-I units are *primitive* phenomenal features, but nothing I have said is inconsistent with their being reducible to other phenomenal elements.

13 A thing is yonder if it is a certain distance *from me*. Yonderhood is thus not a property or relation as these are ordinarily understood, but is rather what Andy Egan (2006) calls a "centering feature". Of course there are many determinates of yonderhood, one for every discriminable egocentric distance.

14 Here and in what follows, I countenance two layers of "intentional contents": descriptive contents presented to a subject, and the referent of those descriptive contents (roughly, Frege's *Sinn* and Frege's *Bedeutung*). I recognize that some philosophers restrict the term "intentional content" to one or the other of these layers. I prefer to distinguish between the two layers by speaking of "presented" intentional content, on the one hand, and "represented" intentional content, on the other.

If in the foregoing I have successfully anatomized a perceptual experience, I have revealed it to be a curious creature indeed: while squarehood and yonderhood are present in the subject's consciousness via intention, redness is present via instantiation – yet all three features are attributed to the self-same particular. That is to say: a property of *the subject* is being attributed to an object presented as located at a *distance from the subject*. It is as though perceptual experience is continually presenting the subject with category errors (akin to Buster Bluth's declaration, "Oh man, it's tired in here!").

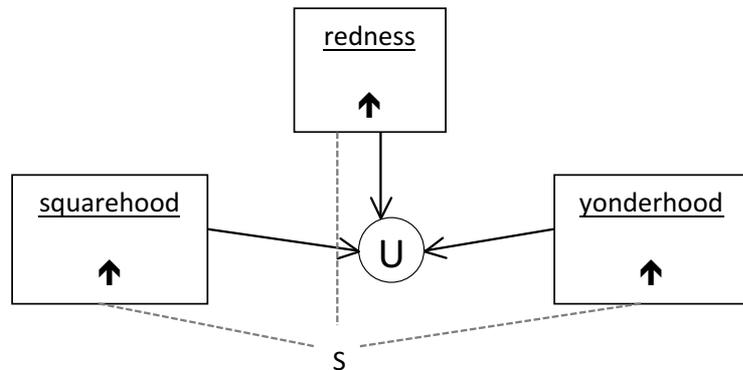
I do think that is what is going on. If so, it explains why philosophers have disagreed so dramatically and interminably about the metaphysics of sensory qualities such as colors. (At one extreme, some philosophers hold that a color is a type of phenomenal property – I include myself in this camp – whereas, at another extreme, some hold that a color is a type of surface-reflectance profile, or even that it is the disjunction of the physical realizers of such a profile). But much more importantly, it explains the epistemic significance of perceptual experience. Each of the three features in the P-I property cluster plays a crucial role in that cluster's providing the epistemic grounds for beliefs about the object presented. (1) P-I yonderhood presents the referent of the cluster as part of the extra-mental world; in its absence, the cluster would present an item indistinguishable from a phosphene or after-image – a "subjective particular", as it were. (2) P-I squarehood serves to provide grounds for discriminating the referent of the cluster from other elements of the perceptual scene – the beginnings of a criterion of identity/persistence for the object, a first clue as to what it is. (3) Somatosensory redness *locates the referent of the cluster in vivid, manifest, occurrent reality*, rather than in a merely imagined or conceptualized locality. It is precisely the inclusion of a somatosensory property that serves up the *irresistibility* of perceptual episodes, in contrast with imaginative and cognitive episodes.

Of course, simply because a subject instantiates a P-I property cluster (barely!) rich enough to perceptually present a particular, it does not follow that the subject *perceives a particular*. Two further conditions must be met for this to be so: (4) the cluster has to correspond to an object in the world, such that this object instantiates all or most of the intended features included in the cluster, thereby satisfying the descriptive content the cluster represents. In cases where no object in the vicinity instantiates all the features bound up with a P-I unit in a perceptual state, reference may be indeterminate¹⁵. (5) The same object that satisfies the descriptive content of the cluster must also be the cause, in the canonical way, of the instantiation of the cluster. ("In the canonical way" is meant to rule out cases of "deviant" causal chains such as the following: I seem to see a red square yonder; there is a red square yonder; the red square is emitting gases that cause me to hallucinate that there is a red square yonder. I leave it open how precisely to cash out canonical causation, trusting that there is a way to do so).

A perceptual P-I property cluster must include a somatosensory property – more specifically, one of the traditional "sensory qualities" – in order to play the unique epistemic role that perception plays, viz., presenting the subject with vivid, manifest, occurrent reality. But now suppose that we replaced the somatosensory property in a perceptual P-I property cluster with a phenomenal-intentional property whose intentional object is that same somatosensory property. For example, suppose we replaced phenomenal redness in the P-I property cluster depicted above with *intended* redness, as follows:

3. From perception to conception

¹⁵ See Montague (2013). Some philosophers maintain that descriptive content plays *no* role in fixing referents of perceptual modes of presentation, a view I reject (for reasons I cannot go into here). My view is thus intermediate between what Recanati (2012) calls "satisfactional" and "relational" theories of perceptual reference.



(Intended redness is what I will call a “P-I sensation” – i.e., a phenomenal-intentional property whose intentional object is a somatosensory property). In this case, the subject is still presented with a red square yonder, but it no longer appears to the subject as really out there in objective space. What she experiences, instead, is *an imaginative facsimile of a perceptual experience*. That is, the resulting P-I property cluster would constitute the same phenomenal mode of presentation as the original cluster, but in the form of an imaginative state rather than in the form of a perceptual state¹⁶. Further, it would remain a uniquely *visual* phenomenal mode of presentation, because redness is still included in the cluster. (This is what makes the cluster *imaginative* rather than purely cognitive). But it would not seem to present to the subject a manifest constituent of objective, local reality.

This feature of imaginative property clusters – that they can replicate perceptual property clusters – provides the crucial connection between our ability to consciously perceive the world and our ability to consciously think about it. To anticipate: imaginative property clusters can serve as *phenomenal prototypes* for previously perceived individuals and kinds, and a set of such prototypes constitutes a subject’s *conception* of those individuals and kinds. In the remainder of this section, I explain in more detail how this can happen.

First, a subject has to have a capacity for tracking persisting objects over time. In the first instance, this will mean that when a subject instantiates a P-I property cluster in a perceptual state over a time interval, the particular thereby presented will seem to endure through that time interval. Such must be part of the nature of P-I units: not just that they particularize contents but that they present particulars as enduring.

Second, presented particulars need to be experienced *as of a certain sort*. That is, a subject’s capacity to experience particulars as enduring leaves open the matter of *the conditions under which* a given particular is experienced as enduring, which is a matter of the sortal under which the object is taken. Sortals need not be *explicitly* represented (i.e., as the intentional object of one of the P-I properties in the cluster) so long as they are *implicitly* represented. A subject implicitly represents an experienced object as of a sort if she expects the object to behave as things of that sort behave, which is to say that she would experience feelings of surprise were it to behave otherwise¹⁷.

¹⁶ Thus, crucially, phenomenal modes of presentation are multiply realized. Their constituents can be swapped out – a feature present by instantiation for the selfsame feature present by intention, and vice versa – while remaining the very same phenomenal mode of presentation. That is, phenomenal modes of presentation are individuated according to their descriptive contents, not according to their phenomenal feels (as instantiating a feature and intending a feature do differ phenomenologically).

¹⁷ Example of an implicitly represented property: I reach out for and grasp my pen, thereupon reacting with surprise at its massive weight. Had I been I consciously, explicitly under-representing its weight? That is implausible.

A third step¹⁸ toward representing individuals is being able to remember past experiences of them. On my view, conscious memories of perceived individuals are imaginative episodes of a unique kind. A subject S's conscious episode M counts as a perceptual memory of an individual O under the following circumstances: (a) it is caused in the right way¹⁹ by a past perceptual state P (or by multiple such states) that included a P-I property cluster that was in turned caused in the canonical way by O, (b) it includes a P-I property cluster that (roughly²⁰) replicates the cluster in P, but with somatosensory properties swapped out for P-I sensations, and (c) it includes phenomenology as of the cluster's being familiar. In other words, I am remembering a perceived object if my imaginative episode feels like a memory of it and is in fact caused (in the right way) by my past perception of it.

Once these elements – (1) the experience of diachronic persistence, (2) sorts, and (3) perceptual memory – are in place in consciousness, the subject is in a position to form a *phenomenal prototype* of an individual. A phenomenal prototype is an imaginative P-I property cluster that binds together those features of an individual that the subject uses to pick out that individual – including (explicitly or implicitly) the individual's sort, as well as the individual's prototypically identifying features. Though a prototype is not a memory of any particular perceptual encounter with an individual, it is abstracted from one or more perceptual memories, and thus it traces its causal ancestry through one or more perceptual experiences of an individual. Thus a phenomenal prototype is the phenomenal equivalent of a definite description, of the following form: the familiar [sort] such that [identifying features]²¹. If a phenomenal prototype's descriptive content is sufficiently rich, or if the subjects' causal exposure to individuals is sufficiently poor, of descriptive contents presented in a single prototype can be sufficient to establish determinate reference. For example, if a toddler entertains a phenomenal prototype that expresses the description *that familiar physical object that is red and octagonal and has S-T-O-P written on it*, there may be just one satisfier of the prototype to which the toddler stands in the requisite causal/historical relation. Or again, it is plausible that our sensitivity to facial details makes it possible for a phenomenal prototype as of a face to uniquely pick out a person. Ordinarily, however, subjects will have – and will *need* – multiple ways of referentially homing in on an individual. To begin to get these more complicated referential mechanisms up and running, a subject needs to be able to entertain two co-referential P-I property clusters at the same time – for example, by simultaneously perceiving an object and remembering it – and needs to be able to experience the two clusters as co-referential. This could happen via the inclusion of a phenomenal-intentional property whose intentional object is the relation of numerical identity, and which links the two P-I property clusters. Under such circumstances, a subject is in a position to compare distinct phenomenal modes of presentation of the same individual. This process of comparison can result in a modified prototype that integrates the content from both sources. Or, it can result in the association

18 Though this step is typically involved in process of constructing a conception of an individual, I do not think it is required: it is possible to make the leap from a perceptual representation of a particular to an imaginative prototype of an individual.

19 I leave unspecified what this causal condition on perceptual memory is, just as I leave unspecified what the causal condition on perception is, but I take it that it will be subject to the same sorts of constraints: it will have to be non-deviant, i.e. robust enough across counterfactual scenarios to deliver a sufficient degree of reliability.

20 I can remember my having perceived O while misremembering some, but not all, of the features whereby I had perceptually picked out O.

21 While the term "prototype" is standard in cognitive science (for discussion see Laurence & Margolis (1999) pp. 27ff), my use is non-standard inasmuch as I am treating prototypes as picking out individuals rather than picking out kinds. My usage is only very gently revisionary.

of the two prototypes as *co-referential*²². Consider, for example, my ability to think about *my house*. One prototype I can deploy in thinking about my house presents its visual appearance from the street: *that familiar structure shaped and colored thus-and-so*. Other prototypes involve its visual appearance from inside any of its rooms, or experiences of working in my study, of cooking in the kitchen, of a particular dinner party I once hosted, etc. If suitably related to one another, these numerous prototypes comprise my *conception* of my house²³. Put more formally: a subject's conception of O is constituted by a set of dispositions to instantiate members of a set of phenomenal prototypes when (a) the subject is disposed to experience arbitrary pairs of such prototypes as presenting numerically identical individuals, (b) the instantiation of one such prototype occasions, or makes more readily available, the instantiation of others in the set, and (c) O is the best candidate satisfier of the conjunction of all the contents expressed by the members of the set²⁴. Of course, only a small subset of a subject's conception of an individual will be occurrent at any one time – likely a single prototype. But given that prototypes are associated in the way just described, the subject can use just one to stand in for the lot. A single prototype – whose descriptive content may be too impoverished on its own to pick out a single individual – nevertheless serves to pick out the individual that is the best candidate satisfier of a *set* of prototypes.

In sum, a subject's ability to consciously conceive of individuals is a matter of (1) remembering and comparing perceptual episodes in which particulars are presented as enduring, sorted individuals; and (2) on the basis of these capacities for perception, memory and comparison, constructing prototype-based conceptions. What about our ability to consciously conceive of *kinds*? The process will look very similar, but it differs in two crucial ways. First, while the comparing of presented particulars plays a crucial role in generating and refining kind-prototypes (just as it does in generating and refining individual-prototypes), what gets compared are not modes of presentation of individuals that the subject treats as *numerically* identical, but rather modes of presentation of individuals that the subject treats as *type-identical*. For example, the process of forming and refining my conception of the kind *dog* may involve instantiating a perceptual P-I property cluster that presents a dog to me, simultaneously instantiating an imaginative P-I property cluster that constitutes a memory of past perceptual contact with a dog, and the linking of these two property clusters via a phenomenal-intentional property whose intentional object is *type-identity*. As before, such

22 The first result is very much like what Recanati calls the “merging” of mental files; the latter result is very much like what he calls the “linking” of mental files. See Recanati (2012), ch. 4 (“Mental Files and Identity”).

23 There is another, very different but crucially important, way that I can refer to my house that I have not yet discussed: I can think of it in terms of its *address*. That is, I can think of it as *that familiar structure located _____*, where the blank is filled in either by reference to nearby landmarks, or by reference to its location in the broader (centered) world. Locations are themselves a type of individual. I can refer to locations insofar as I can consciously represent their spatial relation to other locations, and ultimately to my own location (current or remembered). In employing relational/locational features of my house to identify it, I leverage reference off of a large chunk of my theory of the world. This theory will make reference to other individuals, and each of these individuals will require its own referential apparatus. Hence conceptions of distinct individuals may be interdependent.

24 In trying to account for the phenomenon of conscious conceptualization, I talk of *conceptions* rather than *concepts*. Conceptions, on my view, are sets of prototypes used by a cognizer to pick out a kind. On some theories of concepts, conceptions (in my sense) could not possibly be concepts, for example because concepts are intrinsically representational abstracta (and so cannot be mental particulars), or because concepts are constituents of thoughts or propositions (and so cannot be *sets* of anything). If conceptions (in my sense) satisfy all of your commitments regarding the ontology of concepts, I invite you to identify conceptions with concepts in what follows. More generally: the relationship between a theory of conceptualization and a theory of concepts is to me much like the relationship between a theory of smiling and a theory of smiles: I am much more keen to understand the activity than its reification. (Thanks to an anonymous referee for encouraging me to clarify these points).

a comparison might result in two linked prototypes or a single prototype that integrates components of both property clusters.

A second crucial difference is that the resulting prototypes will not serve to pick out individuals but rather to pick out kinds. Consider the difference between hearing a definite description as referring to an individual and as referring to a class, as in “The yellow spruce danced in the wind” vs. “the yellow spruce is native to Alaska”. In the second case, a grammatically singular phrase is used fully generally. Whatever phenomenal element is present in the second case, and is absent in the first, could also serve to explain how phenomenal prototypes can be taken as picking out perceptually encountered individuals vs. perceptually encountered kinds. There must be, in other words, an element in consciousness that presents a particularized content as a token of a type. When this element affixes to a prototype, it de-particularizes the prototype, letting it stand for the category of items that match it qualitatively. Thus, where individual-prototypes express the content *that familiar [sort] such that [identifying features]*, kind-prototypes express the content *that familiar kind of [sort] such that [identifying features]*.

Aside from these two differences, individual-conceptions and kind-conceptions are alike. Consider the process of learning about salt. A first encounter might be with a variety of tastes that share a quality in common, from which a prototype emerges that expresses the content: *that kind of stuff that tastes thus-and-so*. Visual experiences with salt might result in a distinct prototype or prototypes, depending on how much variation there has been in the subject’s visual experience of salt – depending on how much the salt crystals of her acquaintance have varied in size, say. And so on, as the subject encounters salt under new guises and thus expands her conception of salt. Once the subject’s salt-conception has been constructed, any one of her salt-prototypes can serve to pick out the best candidate satisfier of the whole set. Once one has formed a conception of a kind, that conception can seed the forming of more abstract categories. For example, prototypes from one’s duck-conception, one’s tree-conception, one’s human-conception, and so forth could be type-identified in a new conception that picks out the kind *organism*. Again, such abstract categories can serve as the sortals that form the backbone of prototypes for less abstract categories, such as the kind *fungus*. Thus, previously acquired conceptions serve as a scaffold for the acquisition of new conceptions, in an upwards direction (of increasing abstractness) and a downwards direction (of decreasing abstractness). And new sortal-categories allow the subject to more readily form conceptions of individuals. (I could perhaps form an individual-conception of my car without ever being able to categorize it as a car, but it would be much easier to do so with a car-sortal at hand).

My account of how we use phenomenal prototypes to pick out individuals and kinds has so far assumed that the starting point is perceptual encounter with a kind. But of course we can form conceptions of individuals and kinds that we have never perceived. One very common example of this is our ability to form conceptions of individuals and kinds we have only seen *pictures* of. We can also form conceptions of individuals and kinds we have only had described to us, and we can even form conceptions of kinds we could not possibly perceive (quasar, electron). The causal relations required to anchor reference for prototypes of kinds we *have* perceived is complicated enough: a prototype of a kind K has to have been caused in the right way by a perceptual state (or by memories that were caused in the right way by a perceptual state) that was caused in the right way by an instance of K. But when what is perceived is not an instance of kind K but rather a *representation* of kind K (be it an image or an utterance or an inscription), then this representation has to itself have been caused in the right way by instances of kind K – quite directly in the case of a photograph (say), and more indirectly in the case of an utterance (by being in the causal ancestry of the speaker’s own conception of

the kind). Such *deferential anchoring* of the reference of our prototypes is, I suspect, as common as it is complicated.

4. Perceptual recognition and cognitive phenomenology

So far, I have explained (1) two ways that features can be present in consciousness, by instantiation (via somatosensory properties) or by intention (via phenomenal-intentional properties); (2) the means of semantic combination whereby clusters of such properties constitute phenomenal modes of presentations of perceived objects; and (3) the process whereby such property-clusters are replicated as imaginative prototypes, a set of which forms the subject's conception of an individual or kind. So far, that is, perceptual and imaginative phenomenology have loomed large but cognitive phenomenology has not yet gotten a mention. So: whence cognitive phenomenology?

I am tempted to answer: why, it has been there all along, right under our noses. Perceptual states, after all, involve the attribution of features to objects; that is, they already include the basic semantic mechanism with which presented contents can be assembled into propositional thoughts. Further, in imaginative states, property-clusters serve as prototypes that pick out individuals and kinds. So, just as items within a P-I property cluster are semantically linked to one another (via P-I attribution), so whole clusters can presumably be semantically linked to one another, thereby presenting propositional thoughts whose conceptual components are *not* features presented in consciousness, but are, rather, "wide" (e.g., salt). Indeed, we have already explicitly mentioned an example of a conscious state structured in such fashion. When a subject simultaneously entertains two prototypes such that their referents are presented as numerically identical (in the process of forming an *individual*-conception) or as type-identical (in the process of forming a *kind*-conception), the subject thinks a thought of the form "A = B". When one learns that water is identical to H₂O, one might undergo an imaginative episode with just this structure.

Of course, our conscious cognitive lives rarely include thoughts so simple and concrete as "water is identical to H₂O". But let us suppose (as seems plausible to me, though I cannot work out all the details here) that the prototype-based version of phenomenal descriptivism I sketched in the last section can be applied to the panoply of conceptual categories we deploy in conscious thought – relations of various sorts, psychological kinds, evaluative properties, abstract kinds, and so forth²⁵. In that case, we do not need a further theory of cognitive phenomenology. We already have one: we use imaginative states as the vehicles of conscious thought, when suitably structured via P-I attribution and other consciously presented semantic links (such as numerical identity and type-identity).

This answer is tempting, but not quite right, because cognitive phenomenology is at once *more* than this and *less* than this. It is more than this, first, because propositional thought involves *quantification*, and not merely the representation of individuals/kinds and semantic links between these representations²⁶; and second, because propositional thought involves

²⁵ In case this supposition strikes you as recklessly ambitious, perhaps the following will help: I am convinced by the work of George Lakoff and Mark Johnson that if we bring into the picture some mechanism for *metaphorical abstraction* – i.e., using phenomenal prototypes that present concrete particulars as the metaphorical grounds for conceiving of abstract kinds – it becomes much easier to see how subjects might use a sparse set of primitive intentional categories to form conceptions of the innumerable categories we can entertain.

²⁶ Some semanticists, e.g. Soames (2010), treat quantifiers as a special kind of predicate. We already have the phenomenal equivalents of predicates in the picture (in the form of phenomenal-intentional properties and P-I property clusters), so if Soames is right, we need not add quantifiers as a new element-type in cognition. But even granting that Soames' model of propositional thought is formally adequate, his treatment of quantifiers strikes me as pretty far removed from their intuitive meaning. And their intuitive meaning is likely to be the best guide to how quantifiers show up in conscious cognition.

propositional *attitudes* – judging, wondering, doubting, etc. – and not merely propositional contents²⁷. I am inclined to say that these two elements of conscious thought really are primitive additions; you cannot get there via abstraction from and recombination of perceptual/imaginative phenomenology²⁸.

Cognitive phenomenology is *less* than the deployment of imaginative states, because it is possible to have conscious thoughts without in any way *imagining* their representational contents²⁹. Now, there is nothing in what I have said so far that *requires* cognitive episodes to be imagistic. What makes an episode imagistic is that it includes a P-I sensation (i.e., a phenomenal-intentional property whose intentional object is a somatosensory property). P-I property clusters that include neither somatosensory properties nor P-I sensations are “purely” cognitive: they are conscious intentional states that lack any perceptual or imagistic components. Recall my example of entertaining the thought that anger is ugly. Suppose that *anger* and *ugliness* are among the repertoire of primitive contents you can entertain (by being the intentional objects of phenomenal-intentional properties, rather than by being picked out indirectly via phenomenal descriptions constructed from phenomenal-intentional properties). Because no imaginative prototypes are involved in your having the thought, your intentional state counts as purely cognitive and not imaginative at all. So, one possible way to account for conscious, imageless thinking is to restrict it to contents we do not need to use images to consciously represent.

This strategy won't go the distance, however; there are clear cases of imageless conscious thought about things that we *do* need to use images to consciously represent. The cases I have in mind are cases of high-level perceptual recognition. Suppose I suddenly recognize that the person walking toward me is my brother. Three elements of the scenario are noteworthy. First, there is a change both in the intentional content and the phenomenal feel of my overall experience. Second, I *do* need to use images as modes of presentation of my brother: I do not think of him by “grasping his essence” (if it even makes sense to speak of him as having one), but rather by entertaining one of the many perceptually-based prototypes I have of him. Third, my conscious perceptual state is not obscured, so to speak, by a *distinct*, imaginative P-I property cluster (whereby I recognize him) in addition to the perceptual P-I property cluster (whereby I perceive him). It would seem then, that my means of consciously representing my brother as my brother (viz., an imaginative prototype of him) is not present in the case in which I perceptually recognize my brother as my brother. How could this be possible? What occurs in such cases, I suggest, is that a *placeholder* that stands in for my entire conception of my brother is bound to the P-I property cluster that presents him. This placeholder effectively renders the perceptual P-I property cluster that presents him as a temporary member of the set of prototypes that constitutes my conception of him. The

27 Horgan & Tienson (2002) can be credited with bringing this aspect of cognitive phenomenology into the forefront.

28 Prinz (2011) suggests that propositional attitudes are not conscious as such but do make a phenomenal difference by way of concomitant epistemic feelings (e.g. “curiosity, interest, awe, wonder, familiarity, novelty, puzzlement, confusion, and surprise” [p. 191]). In a sense, this is exactly what I am saying: consciously judging that p involves having a feeling – the feeling of taking-as-true – about that proposition. For Prinz such a feelings cannot *be* the propositional attitude of judgment because attitudes are partly individuated by their functional role – a thesis that has no appeal to me. More importantly, Prinz seems to think that all emotional phenomenology reduces to somatic phenomenology. If we are talking about *epistemic* emotions, I do not see how the reduction is supposed to go.

29 Plausible examples include cases in which cognitive content seems to shift while perceptual and imaginative phenomenology remains unchanged, e.g. (a) shifting from not understanding to understanding a spoken language (Strawson [1994], pp. 5ff); (b) shifting from understanding an ambiguous sentence one way vs. another way (Horgan&Tienson [2002] p. 523 and Siewert [1998] p. 279); and (c) abrupt redirections in one's thinking, such as a so-called ‘aha’-moment (Siewert [1998] pp. 276-277).

presence of this placeholder is marked by three features: (a) a feeling of familiarity; (b) expectations with respect to the perceived individual, in keeping with my conception of him; and (c) the ready availability of conscious judgments from my conception of the individual, especially in the form of other phenomenal prototypes. There is, then, no phenomenology proprietary to seeing my brother as my brother. But when I recognize my brother, a phenomenal shift does take place: the phenomenology of familiarity is newly instantiated. And certain dispositions to think and react in certain ways are activated. (Similar things can be said about perceptual recognition of *kinds*).

Here, then, is how to account for non-imagistic conscious thought: if there can be such placeholders in conscious perception, they can presumably be deployed in the absence of any perceptual phenomenology. So, it is possible for me to think *bears are dangerous* without entertaining any conscious imagery, so long as my conscious state includes placeholders that are associated in the right way with my dispositions to instantiate imaginative prototypes that exemplify my conception of bears (and danger). Now, these placeholders do not represent anything at all by themselves; they are intrinsically indistinguishable. And this might seem surprising: the contribution they make to fixing the content of a cognitive state is a matter of the imaginative states they *dispose* the subject to instantiate. But I do not think this suggestion is so surprising after all. It is frequently the case that I have a conscious thought that I later struggle to put into words; the struggle can even reveal to me that there was no coherent thought to be had. My view nicely explains how a subject's grasp of her thoughts can be quite poor on one occasion but quite rich on another³⁰. It also explains why we so often use inner speech to think, since "inner words" *are* intrinsically distinguishable.

We have now compiled all of the phenomenal elements needed to construct conscious cognitive states, complete with logical and attitudinal structure: (1) phenomenal "variables", in the form of P-I units; (2) phenomenal "predicates", viz., (a) phenomenal-intentional properties; (b) imaginative prototypes (i.e., P-I property clusters that pick out individuals and kinds in virtue of being part of an associationally linked set of such clusters), and (c) placeholders for such prototypes; (3) phenomenal quantifiers; (4) semantic structure presented via P-I attribution (as well as P-I identity); and (5) attitudinal structure presented via phenomenal attitudes.

5. Conclusion

Let us return to the four characterizations of the cognitive phenomenology debate listed above, applying them to the theory of conscious thought I have been developing. Per Bayne & Montague (2011), does conscious thought possess a "distinctive phenomenal character"? If we bracket the special cases of quantificational and attitudinal phenomenology and focus on the conscious entertaining of atomic propositions and sub-propositional categories, the natural answer is *no*. If a phenomenal-intentional property can be part of an imaginative property cluster, then there is no reason to think it cannot be part of a perceptual property cluster. If anything, it is conscious *perception* that is distinctive: perceptual property clusters include somatosensory properties (in addition to phenomenal-intentional properties), and this is what allows them to play their unique epistemic role. So the view I have been proposing counts as *conservative*, in Bayne & Montague's sense.

Per Chudnoff (2015), do some cognitive states put one in phenomenal states for which no wholly sensory state suffices? The answer depends on what it is for a state to be "wholly sensory". If "wholly sensory" means *composed entirely of somatosensory properties*, then the natural answer to the question is *yes*. Conscious cognitive states include phenomenal-

³⁰ See Siewert (1998), pp. 276ff and Pitt (2011) for related discussions of this phenomenon.

intentional properties, and unless phenomenal-intentional properties can be reduced in some way to somatosensory properties, then somatosensory states are not sufficient for conscious cognitive states. So the view I have been proposing counts as *non-reductive*, in Chudnoff's sense. Now, my theory of conscious *perceptual* states also counts as non-reductive in Chudnoff's sense, so it is not clear how notable this verdict is.

Per Robinson, can there be a conscious, occurrent, phenomenologically present understanding that does not consist in anything imagistic and is not a change in emotional state? The natural answer is *yes*. If a subject instantiates a (non-perceptual) cluster of phenomenal-intentional properties none of whose intentional objects are somatosensory properties – e.g., she instantiates phenomenal-intentional properties whose intentional objects are *anger* and *ugliness* such that she is presented with the thought that anger is ugly – then she is in a conscious cognitive state that does not involve images or emotions. So the view I have been proposing counts as *liberal*, in Robinson's sense.

Finally: per Prinz, do some mental representations that have a phenomenal character represent non-sensory qualities? The answer depends on what Prinz counts as a "sensory quality". Prinz says that sensory qualities are "aspects of appearance", and that non-sensory qualities are aspects that "transcend appearance"³¹, but this is only helpful insofar as we have a grip on which features can *appear* to us to be instantiated. Can three-dimensional shapes (such that a thing "appears" to have an occluded backside)? Can causal relations? Presumably many kind-properties *cannot* appear to us be instantiated, at least under normal circumstances: a substance does not wear its atomic number on its sleeve, so to speak (except perhaps under very special laboratory conditions). And certainly we can consciously represent such kind-properties. But I have been suggesting that we consciously represent kinds via phenomenal descriptions constructed from a restricted set of phenomenal-intentional primitives. If the elements in this set are the sorts of qualities that *can* appear to be instantiated – which may be plausible, given a generous conception such that 3-D shapes and causal relations and suchlike can so appear – then it seems to me that we can get pretty far, cognitively, on Prinz-style "sensory qualities" alone. So the natural answer to the question is *no*: the view I have been proposing counts as *restrictivist*, in Prinz's sense.

What has emerged is a theory of cognitive phenomenology that is *conservative*, *non-reductive*, *liberal*, and *restrictivist*. That is, the theory has both anti-inflationary and inflationary elements. It is anti-inflationary in the sense that conscious thoughts are built largely from the same elements as conscious percepts and conscious images. But it is inflationary in the sense that conscious percepts and conscious images are *themselves* pretty inflated, phenomenologically – they involve structured complexes of phenomenal-intentional properties. The theory is thus anti-inflationary in letter – the conscious mind is considerably more unified and bottom-up than inflationists describe it – yet inflationary in spirit, since the leap from mere sensation to conscious intentionality of *any sort* is a major one.

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³¹ His formulation: "The content of a vehicle is *sensory* just in case it represents some aspect of appearance. A content is *non-sensory* if it transcends appearance; i.e. if there can be two things that are indistinguishable by the senses, one of which has the property and the other of which does not" (Prinz 2011, p. 176).

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