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Can Emotional Feelings Represent Significant Relations?

Larry A. Herzberg
University of Wisconsin, Oshkosh
herzberg@uwosh.edu

Abstract: Jesse Prinz (2004) argues that emotional feelings (“state emotions”) can by themselves perceptually represent significant organism-environment relations. I object to this view mainly on the grounds that (1) it does not rule out the at least equally plausible view that emotional feelings are non-representational sensory registrations rather than perceptions, as Tyler Burge (2010) draws the distinction, and (2) perception of a relation requires perception of at least one of the relation’s relata, but an emotional feeling by itself perceives neither the subject’s environment, nor in many cases the relevant subject. I then explore two ways in which emotional feelings as non-perceptual sensory registrations might still contribute to significant relation representation when associated with representations of the subject and/or its environment. After briefly discussing some difficulties presented by a multimodal, sensory-perceptual view of such representation, I argue in favor of a “cognitive recognition theory” that holds that significant relation instances are represented during emotion occurrences via applications of emotion-type concepts to “incoming” emotional feelings and their associated mental states.

Keywords: Emotion, Sensation, Perception, Cognition, Prinz, Burge

1. Introduction

Perceptual theories of emotion hold, among other things, that emotions have a “mind-to-world direction of fit”, and hence representational accuracy conditions, while denying that they represent conceptually or are reducible to propositional attitudes (even when such attitudes are accompanied by feelings).¹ I take Jesse Prinz’s (2004) “embodied appraisal” theory of emotion to be the most thoroughly developed view of this type. Prinz argues that emotional feelings (“state emotions”)², understood as interoceptive somatosensory states, [216] directly perceive the bodily conditions they register, and indirectly perceive significant organism-environment relations of the sort summarized by Lazarus’s (1991) core relational themes. Since core relational themes can hold between relata other than an organism and its environment,³ I refer to the relevant class of relations

¹ This augmented sort of reduction is what Goldie (2000, 2002) refers to as an “add-on” view.

² In what follows, ‘emotional feeling’ is at least roughly synonymous with Prinz’s use of ‘state emotion’.

³ For instance, one’s *feeling ashamed of one’s feeling of fear* may amount to the representation of a significant

simply as “significant relations”. Prinz thus makes two fundamental claims. *The perceptual claim* is that emotional feelings are perceptions. *The content claim* is that, assuming that emotional feelings are perceptions, they can by themselves perceptually represent significant relations.

In this paper I criticize Prinz’s arguments for both claims. I object to his argument for the perceptual claim on the ground that it fails to rule out the at least equally plausible hypothesis that emotional feelings are “mere” non-perceptual sensory registrations, as Tyler Burge (2010) draws the distinction.⁴ This of course also weakens Prinz’s argument for the content claim, since if we lack the right sort of evidence to believe that emotional feelings are perceptions, we also lack reason to believe that they can perceptually represent *anything*. But I also raise two further objections to the content claim. The first is that it relies on a teleosemantic theory of content that fails to distinguish *perceptual content* from mere *reference* (understood causally). The second is that perception of a *relation* requires perception of at least one of the related *relata*, and, as we shall see, Prinz recognizes that emotional feelings by themselves do not perceptually represent a significant relation’s *relata*.

More constructively, I argue that even if emotional feelings turn out to be non-perceptual sensory registrations, they could still *contribute* to significant relation representation in at least one of two ways. The first is analogous to the way in which the vestibular system – the sensory system responsible for maintaining balance – sometimes cooperates with the visual system to perceptually represent an object’s slant or verticality. Such a *sensory-perceptual* process would be multimodal insofar as it uses psychologically independent sensory and perceptual systems to perceptually represent significant relations. The second, which I call *the cognitive recognition theory*, focuses on how “incoming” emotional feelings might activate emotion-type concepts schematically having “slots” to be filled in by representations of an occurrent significant relation’s *relata*. Although this *sensory-cognitive* view is also multimodal, none of the modalities involved need be perceptual; hence, at least when applied to mature humans with the necessary conceptual repertoire, it would apply to more emotion occurrences than any sensory-perceptual view.

Both of these alternative views are based on an analysis of an emotional feeling’s relation to other states that closely resembles what Prinz calls an “attitudinal emotion”: an emotional feeling associated with a psychologically independent state representing what the feeling is about or “directed at” – what Prinz refers to as the emotion’s *particular object*.⁵ Prinz recognizes that only such attitudinal emotions, and not [217] emotional feelings alone, should be regarded as ways of emotionally *construing* objects or states of affairs, and my alternatives bear some similarity to the construal views of, for instance, Roberts (1988) or Nussbaum (2001). However, the framework within which I discuss the alternatives should clarify and supplement such views by providing a more fine-grained set of criteria for deciding whether the construal process is sensory, perceptual, cognitive, or a combination of these.

Attitudinal emotions are in almost all cases multimodal.⁶ As I use the term, a *modality* is a channel through which informational states can pass. A state is informational if tokens of its type are reliable effects of their causes. It is such reliability that allows informational states to be put to

relation as holding between oneself and a state of oneself, rather than one’s environment. Of course, this still allows that the most ontogenetically and phylogenetically *fundamental* significant relations may be those that hold between an organism and its environment.

⁴ I refer to this below simply as “Burge’s distinction”, and explicate it in section 2.

⁵ Prinz (2004, Chapter 8). I state that my analysis only “closely resembles” Prinz’s because I do not share his presupposition that to say that an emotion is *about* something is to say that that thing *caused* the emotion (2004, 62). That is, I do not accept the view that, necessarily, what an emotion is about is what caused it. Cf. Herzberg (2009).

⁶ The only exception would be an emotional feeling that is about another emotional feeling.

representational use, but being put to *perceptual* representational use requires the state to be further processed in a way that makes it evaluable in terms of its *accuracy*. As Burge emphasizes, such processing generally exploits *perceptual constancies*, which I discuss in the next section. By contrast, an informational state can be put to *cognitive* representational use in several ways, including by providing a basis of inference. For example, tree-rings are informational because they are reliably caused by annual growth patterns. This information, once it has been represented by an observer, provides a basis for inferring the tree's age, but this of course is no reason to believe that the tree rings themselves have a representational function. Note that on this way of understanding the terminology, both perceptual systems and non-perceptual sensory registration systems are modalities, as are cognition, imagination, and memory, allowing multimodal systems to include any combination of them.⁷ But to be informational is not necessarily to be perceptual or (more broadly) representational; indeed, information need not even be psychological.

In addition to accepting Prinz's view of multimodal attitudinal emotion structure, I share his view that emotional feelings occur in a complex somatosensory system that includes multiple subsystems: *exteroceptive* subsystems for perceiving pressure, discriminative touch, crude touch, heat, cold, and proprioception, and *interoceptive* subsystems for registering the bodily conditions that cause cutting, burning, aching, and other sensation types.⁸ I also share Prinz's "neurofunctionalist" view that such systems are individuated by the types of properties to which they are causally sensitive (their typical inputs), the types of sensors and neurological pathways those properties tend to activate, and their typical psychological and behavioral outputs.⁹ So I assume that the somatosensory subsystem responsible for producing emotional feelings is (in theory, if not yet in practice) distinguishable in terms of the neurological pathways involved, and, more importantly, its *function*, which is inferable from its typical inputs and outputs. I say "more importantly" because when there is neurological overlap between subsystems, as there likely is between the somatosensory subsystems that register *emotional* versus *non-emotional* "gut reactions", functional parameters are required to resolve the question of which subsystem is operative. Prinz clearly thinks that there is a neurofunctionally individuated somatosensory subsystem that "hosts" [218] emotional feelings.¹⁰ I call this the *e-somatosensory system*. Its typical *inputs* are combinations of bodily conditions that are usually caused by mental representations with particular types of content. Its typical *outputs* include facial expressions,¹¹ effects on cognition, memory, and behavioral impulses or action tendencies aimed at either maintaining or *coping* with the situation.¹² The e-somatosensory system may therefore be thought of as an intermediate part of a more extensive emotional system that includes the systems necessary to produce the relevant inputs and outputs.

So much for preliminary matters. Before criticizing Prinz's arguments for his perceptual and content claims, I must first explain Burge's distinction between perceptual and non-perceptual sensory systems, since this constitutes my main presupposition. I can then explore the possibility that emotional feelings (as *non-perceptual* sensory registrations), in combination with either

⁷ The emphasis I place on *multimodality* is shared by Seth's (2013) theory of emotion, but neither of the alternatives I develop depend upon the "predictive coding" framework (see Hohwy 2013) on which his theory relies.

⁸ For an overview of the somatosensory system, see <http://nba.uth.tmc.edu/neuroscience/s2/chapter02.html>.

⁹ For more on neurofunctionalism, see Prinz (2012, Chapter 9). The functionalist aspects of my own view are also influenced by MacPherson (2011).

¹⁰ Prinz (2004, 225).

¹¹ Cf. Ekman (1993).

¹² Coping can be either "problem-focused" (aimed at either modifying or maintaining the relevant situation) or "emotion-focused" (aimed at modifying one's emotional dispositions), to borrow from Lazarus (1991).

perceptual or cognitive states, might yet contribute to multimodal representations of significant relations.

2. Burge's distinction between perception and "mere" sensory registration¹³

On Burge's (2010) view, "mere" (non-perceptual) sensory registration systems are causally sensitive to stimuli impinging on sensory surfaces or afferent nerve endings, but they are able to carry out their functions non-representationally. Their states carry information in virtue of their reliable causal connections to prior events, but their functions are adequately explained in terms of their adaptive effects alone, rather than in terms their accuracy or "veridicality". By contrast, systems that qualify as perceptual further process sensory registrations in accord with *perceptual constancies*: systematic biases attuned by evolution or learning to environmental regularities of various sorts. Via their incorporation of perceptual constancies, perceptual systems "objectify" the distal causes of incoming sensory registrations by representing them as spatiotemporally singular objects (including particular bodies, events, and locations) along with those singular objects' properties or relations. Burge finds this distinction deeply embedded in the explanations of perceptual psychology, which focus on how sensory systems utilize perceptual constancies to produce more or less accurate representations of relatively stable, trackable objects. The perceptual process must somehow distinguish the object *per se* from the often unstable flow of sensory registrations, and the accuracy of that objectification is evaluable independently of any contribution the perceptual process may make to biological success. As Burge puts it, the notion of accuracy that psychophysical explanations of the process invoke must be "non-trivial" in the sense of being irreducible to biological success. This is partly because optimally *adaptive* states can be systematically *inaccurate*, as when a perceptual system is biased [219] in such a way as to produce false positive representations of predators. In short, Burge argues that biological and representational norms of *success* are fundamentally distinct.

Photosensitivity provides a clear example of a type of sensory registration that falls short of perceptual representation-

Bacteria can discriminate light from dark and move to where there is a paucity of oxygen. Nothing in their sensory capacities segments out the entities that have the attributes that they need... Their sensory systems simply register information ... associated with proximal stimulation. The organisms simply react to conditions on their bodily surfaces. ...[Their] sensory capacities link causally with environmental macro-attributes that bear on the organism's needs or activities. The sensory capacities do not represent those attributes. They simply react to surface stimulation that is sufficiently correlated with environmental attributes for the reaction to be beneficial for the animal. (Burge 2010, 325)¹⁴

The bacteria's behavioral response to the stimuli is adequately explained bio-functionally, in terms of sensory capacities that evolved in response to adaptive pressures exerted by the environment.

¹³ What follows is just a quick sketch of Burge's views, not a defense of them. I consider his own arguments for them to be quite strong, but they do raise ongoing issues in the philosophy of perception, including whether perceptual systems *must* incorporate perceptual constancies, and even the extent to which perceptual psychology regards perception as representational in Burge's rather demanding sense. Cf. Nudds (2012).

¹⁴ All further page number references to Burge's work are to (2010).

Explanatorily, there is no need to hypothesize states within the organism that *represent* oxygen-poor water more or less accurately; calling the sensory states that facilitate the bacteria's behavior "accurate" would be a *trivial* or merely figurative use of the term.¹⁵

This example's plausibility might partly be due to the fact that single-celled organisms lack the sorts of nervous system associated with paradigm perceptual systems. However, Burge also provides examples of non-perceptual sensory systems in organisms that clearly have full-fledged perceptual systems, including one underlying a salmon's ability to relocate its molting stream by sensing the distribution of waterborne chemicals on its sensory surfaces, and another underlying a snake's ability to find prey by serially sampling airborne chemicals with its tongue. Of course, such abilities are explained not only by the creature's sensitivity to chemical traces, but also by the computations required to weigh intensities of stimulation across sensory surfaces at a given time, or across serial samples taken at different times. But Burge stresses that computation by itself is not a reliable sign of representation. In the salmon case, he argues, "we have computation *without* representation. The directional effect can be explained entirely in terms of weighted averaging on distributions of registrations of surface stimulation. ... No explanation of the operations of such systems would be enhanced by invoking states with veridicality conditions." (424) So we have no reason to believe that the computational algorithms this sensory system incorporates involve any perceptual constancies, and hence no reason to believe that salmon perceptually represent the locations of their molting streams, or even the pathways to those locations.

The most impressive examples of perceptual constancies are those found in the "distance senses" of hearing and vision. Auditory constancies include location constancy across myriad sensory variables, pitch constancy across timbres, and phoneme constancy across registrations of idiosyncratic voicings. Visual constancies include color, shape, brightness, size, motion, and distance. There are also *tactile* constancies of shape and texture across [220] various types of registered contact. Importantly, Burge argues that although these somatosensory subsystems are perceptual, other somatosensory subsystems seem not to be, including the one that produces painful sensations. (415, 421) However, a subsystem's being unimodally non-perceptual does not necessarily render it perceptually useless, for in addition to there being perceptual constancies resulting from multimodal cooperation between (i) unimodal perceptual systems, there can also be perceptual constancies resulting from multimodal cooperation between (ii) unimodal perceptual and non-perceptual sensory systems, or (iii) non-perceptual sensory and conceptual systems. (413-415) For instance, a multimodally incorporated "vertical constancy" involving cooperation between the vestibular and visual systems allows a tilted observer to more accurately perceive the slant or verticality of a luminous line in the dark. This process falls into either category (i) or (ii) above, depending on whether the vestibular system is unimodally perceptual or merely sensory. As for (iii), Burge argues that such sensory-conceptual cooperation underlies the perception of foods or drinks as themselves having smells or tastes-

The chemical senses (smell and taste) seem largely to be non-perceptual sensory systems, unless they are supplemented by input from other sources. ... There is, I think, objectification in humans' determining quality and type of the taste of food or wine. The food is taken to have a taste, in addition to its producing a taste on the tongue. This objectification seems to depend on conceptual association and

¹⁵ As should become clearer below, claiming that an emotional feeling by itself has a mind-to-world direction of fit, and hence *accuracy* conditions, may be such a merely figurative use of 'accuracy'.

conceptual memory. ... I know of no perceptual constancies in the gustatory or olfactory sensory systems themselves. Scientific accounts of their operations do not, for the most part, make non-trivial appeal to sensory states with veridicality conditions. (415)

As I will explain in section 4, this suggests the intriguing possibility that *concepts* of emotion-types, when activated by incoming e-somatosensory registrations of certain bodily conditions, might contribute to sensory-cognitive (non-perceptual) representations of significant relations.

There can of course be reasonable disagreement as to whether a particular system is perceptual or merely sensory, but Burge insists that the issue can be settled only by psychologists working in the field, not *a priori* by philosophers. Appeals made to intuition or phenomenology cannot be dispositive. Rather, under controlled conditions, researchers must observe an organism's behavior relative to the distal objects or events that cause sets of sensory registrations on sensory organs. Certain sorts of responsive behaviors tend to confirm that objectification is occurring. In particular, manifestations of *expectation* or *anticipation* can, in certain experimental contexts, provide grounds for inferring that perceptual objectification is occurring. (447) But the same behavior can of course be explained in multiple ways, so to provide convincing evidence that a process is perceptual, the *best* explanation of how its states enable behaviors must invoke those states' accuracy.

I have presented only some of Burge's conclusions, and not the details of his arguments, which draw heavily from psychophysical studies. Prinz, like Burge, believes that philosophy of mind should be guided by empirical psychology.¹⁶ So if Burge's distinction between perception and sensory registration is well-founded, as I believe it is, Prinz should be open to considering how it may require him to revise his [221] view that an emotional feeling can by itself perceptually represent a significant relation. But just how is Burge's distinction relevant to Prinz's view, and what other concerns does Prinz's view raise?

3. Concerns About Prinz's Perceptual Theory of Emotion

Prinz's main goal in (2004) is to reconcile James' (1884) "somatic feeling" theory of emotion with Lazarus's (1991) cognitive-evaluative appraisal theory.¹⁷ His strategy is to argue that emotional feelings, understood as somatosensory registrations of bodily conditions triggered by mental representations, can by themselves perceptually represent significant relations of the sort summarized by Lazarus's core relational themes, independently of any prior or ongoing cognitive appraisal of the situation. Take, for example, a typical case of fear. Suppose that I see a large snake slithering rapidly towards me. On Prinz's view, and consistent with LeDoux's (1996) finding of a neurological "low road" to fear, prior to any cognitive evaluation of the situation as dangerous to me, my visual percept of the approaching snake triggers my amygdala to initiate a complex set of bodily reactions that facilitate certain action tendencies (to fight, flee, or freeze, depending on contextual factors) and reliably cause sensations typical of those bodily reactions. Following Damasio (1994), Prinz supplements this Jamesian picture by expanding the range of bodily conditions such feelings can register, including hormone levels and neurologically-based surrogates for bodily conditions.¹⁸ However, *contra* Damasio, Prinz rejects any identification of

¹⁶ See, for instance, Prinz (2004, 29-30).

¹⁷ This summary is derived mainly from Prinz (2004, Chapters 1-3).

¹⁸ Cf. Damasio's (1994) discussion of the "as-if" loop.

emotion with the bodily conditions such feelings register; rather, for Prinz, as for James, a “state emotion” just *is* the feeling proximally caused by those bodily conditions. Also, *contra* both Damasio and Lazarus, Prinz argues that such feelings by themselves perceptually represent the sorts of significant relations summarized by core relational themes. In the case of fright, the applicable theme (as glossed by Lazarus) is *facing an immediate, concrete, and overwhelming physical danger*, but of course the precise descriptions of the relation types are up for debate.¹⁹

Prinz uses Dretske’s (1986) theory of representation, along with a teleosemantic (i.e., bio-functional) constraint on perceptual content, to argue for “the content claim” I mentioned above, namely that emotional feelings by themselves perceptually represent significant relations (their distal causes), rather than the bodily conditions they more directly register. This claim, however, obviously depends on the logically prior “perceptual claim” that emotional feelings are perceptions at all. Prinz offers two arguments for the perceptual claim. The first begins with the observation that emotional feelings occur in the somatosensory system, which he describes as a “dedicated input system” having “the function of receiving information from the body or the world via some priority class of transducers and internal representations”. (2004, 222)²⁰ This [222] suggests to him the following analogy: “Just as the visual system subdivides into hierarchical pathways for detecting color, form, motion, and position, the somatosensory system divides into pathways for detecting textures, shapes, temperature, injuries, and core relational themes.” (225) Both of these assertions, however, are questionable in light of Burge’s distinction. The use of ‘representations’ in the first raises the issue of whether information from the body or the world might rather be transduced into sensory states having qualitative character but not representational properties,²¹ while the use of ‘detects’ in the second begs the question of whether all *detection is perceptual* – an issue to which I will return below. So both assertions presume that *all* somatosensory subsystems are perceptual, contrary to Burge’s suggestion that at least one (the pain pathway) is merely sensory.

These issues come more clearly into focus when Prinz tries to pre-empt the objection that emotional feelings, unlike other types of exteroceptive perception, are *direct* responses only to bodily conditions, and are at best *indirect* responses to the environment. For here he provides a fuller set of conditions for being a perceptual state, asserting that “What really matters [for a state to qualify as perceptual]... is not directness but *receptivity*.” (231, italics added). *Systematicity*, he adds, is also crucial-

...fear is a receptive response, systematically triggered by danger. No matter how indirect, it has the basic profile of a perception. ...core relational themes count among the causes to which emotions are receptively and systematically linked. Such systematicity, rather than directness, is what really matters in perception. (231-232)

So for Prinz, what really matters for a state to be perceptual, in addition to its being processed by a dedicated input system, is its being produced by a receptive modality, and its being systematically

¹⁹ Lazarus (1991, 122) lists the core relational themes of fifteen emotion-types. Left out of these summaries is any mention of the *relata*, which must be “filled in” for any particular occurrence: a subject (usually but not always the one experiencing the emotion) and the object, event, or situation that stand in the significant relation.

²⁰ All subsequent references to Prinz are to (2004), unless otherwise noted.

²¹ Of course, if ‘transduction’ is *defined* as having representational output, the issue becomes whether the information is transduced at all, rather than merely being transformed in some other way – for instance, from kinetic energy into electro-chemical impulses.

linked to its causes. *Receptivity* distinguishes perception from cognition, which requires an activation of stored representations (concepts) that are employable by the subject. *Systematicity* is required for there to be a *reliable* causal connection – however indirect it might be – between a percept and that which it functions to represent. The problem, however, is that receptivity, systematicity, and being located within a dedicated input system are conditions satisfied by *both* perceptual representations *and* non-perceptual sensory registrations. Hence they fail to jointly suffice for being perceptual. What is missing, from a Burgeian standpoint, is any reason to think that the e-somatosensory system incorporates a perceptual constancy – even one that would allow e-somatosensory states to represent the bodily conditions they directly register, let alone one that would enable them to represent significant relations.

Prinz's second argument for the perceptual claim rests on an analogy he draws between the hierarchical structures of the visual and e-somatosensory systems. He begins by describing Jackendoff's (1987) theory that visual processing occurs at three levels: low, intermediate, and high. *Low-level* vision detects oriented lines and small patches of color. Integration of such features occurs at the *intermediate level*, where "lines come together to form contours, spots of color blend in context-sensitive ways, and motion and shading [223] facilitate the perception of depth and dimension." (207) Prinz argues extensively that only intermediate-level states are consciously experienced.²² Assuming that we consciously experience percepts of objects, this should be the level at which perceptual constancies are incorporated and objectification occurs. However, Prinz instead uses neurological studies, particularly those focusing on the inferior temporal cortex [ITC], to argue that "viewpoint-invariant recognition" occurs only at the *highest* level of visual processing. As he puts it-

The very same object perceived at different orientations, in different positions of the visual field, and different distances, can cause the same cells in these regions to fire. High-level vision abstracts away from details, allowing us to see commonality across a range of objects and viewing conditions. (208)

These two sentences suggest that Prinz may be conflating two rather different abilities: perceptual objectification and conceptual recognition. On the one hand, the firing of "the same cells" mentioned in the first sentence could be associated with the visual system's incorporation of perceptual constancies (and hence with the system's ability to "filter out" relatively stable objects and their properties from the ongoing flux of incoming sensory information). This interpretation would be consistent with the ITC's location at the end of the ventral stream of visual processing.²³ On the other hand, the ITC also has connections to memory centers (including the hippocampus, amygdala, and the prefrontal cortex), so the firing of those cells could also signal the application of type-recognizing *concepts*.²⁴ Indeed, *recognizing commonality across a range of objects* at the high level would seem to be facilitated by *prior* objectification at the intermediate level, thanks to

²² The argument begins in Prinz (2004), but is greatly elaborated in (2012).

²³ Cf. Kolb, B., Whishaw, I. Q. (2014).

²⁴ Prinz (2006, 436) writes that a condition of an organism's perceiving an object *as X* (in the sense of *recognizing it as X*) is that the incoming percept is "matched against stored representations that represent X." However, such stored representations are *concepts* (by Prinz's own definition), rendering the type-recognition process *conceptual* rather than perceptual. This issue is not merely terminological, since – as Prinz would surely agree – a creature lacking certain concepts might *perceive* an object (*as* an object, via a system that incorporates perceptual constancies) without *recognizing* it to be of any particular (conceptually represented) type.

the relative stability such objectification provides.²⁵

To see why this apparent conflation weakens Prinz's perceptual claim about emotional feelings, we need to examine the analogy he draws between the hierarchical structures of the visual and emotional systems. He begins by citing Damasio's (1999) *two-level* distinction between "first-order body representations", which have autoregulatory functions, and "second-order body representations", which "represent the first-order representations in order to provide integrated feedback..."²⁶ (212) Prinz then speculates-

A third level may also exist. ...Low-level systems detect local body changes, intermediate-level body systems detect patterns of body changes, and the [224] hypothesized high-level systems abstract away from differences between patterns, treating a range of patterns as alike. ...we would expect this highest level to be the level at which emotion recognition is achieved. (212)

It seems that "emotion recognition" here refers to the recognition of emotional feelings as being of certain emotional types (such as anger), types that arguably are conceptualized at least partly by their phenomenal (qualitative) properties, as well as functional ones.²⁷ But if *emotion recognition* is a primary function of high-level emotion processing, then the comments just made in regard to high level vision apply here as well. For a process that *matches* aspects of incoming states with stored concepts need not itself incorporate perceptual constancies, although it may be facilitated by their prior application at a lower level of processing. Indeed, consistent with Damasio's two-level view, e-somatosensory perceptual objectification might occur exclusively at the second level, resulting in the *integration* of incoming first-level sensations caused by bodily reactions to emotion-eliciting representations. High-level emotion processing, the level at which emotion-type recognition is achieved, would then more plausibly be *conceptual*.

Somewhat surprisingly, this conclusion – which seems to weaken this second argument for the perceptual claim – is supported by Prinz's own view that emotion-type recognition systems reside in the ventromedial prefrontal cortex, which, as he notes, is strongly associated with *emotion-sensitive decision making*. For if there is any meaningful distinction to be made between perceptual and cognitive processes in terms of their degrees of receptivity and activity, decision making must surely be viewed as a paradigm of cognitive activity rather than a receptive perceptual process. Furthermore, Prinz stresses that the high-level emotional states stored in long term memory can be used to generate intermediate-level images of the same type during deliberative reasoning-

In forming conscious visual images, we may use high-level visual representations to reactivate regions that are earlier in the visual hierarchy (Kosslyn, 1994).

²⁵ I do not mean to suggest that objectification is a necessary condition of *all* recognition; only that it is required for the recognition of a type of *object*. As I point out below, *sensory registration types* might be recognized by their qualitative properties, prior to (or independently of) any perceptual objectification.

²⁶ Note that Damasio uses the term 'representations' here at least as liberally as Prinz, without regard to any distinction like Burge's. On my view, "first-order body representations" should denote mere sensory registrations, while "second-order body representations" could, given their integrating function, denote somatosensory percepts. The issue is empirical.

²⁷ They *may* also be conceptualized in terms of their representational properties, if emotional feelings are perceptually representational. But of course an argument for the perceptual claim cannot assume what it is trying to prove.

Likewise, emotions that are reactivated during reasoning are essentially emotional images. An image is just a state in a sensory system that has been generated from the top down rather than the bottom up. (214)

Such top-down generation, especially if it can be under organismic control, is enough to make the activity *cognitive* rather than perceptual, as Prinz draws the distinction.²⁸ So if stored, high-level emotion representations are used to generate the intermediate-level “emotion images” that facilitate deliberative reasoning,²⁹ this gives us no reason to believe [225] that high-level emotion is perceptual rather than cognitive; rather, it gives us a strong reason to believe that it is cognitive.

Prinz might not be perturbed by these points, for in (2002) he argues that concepts just are (roughly) stored complexes of percepts, and this could lead him to reply that emotion-type recognition’s being *conceptual*, and emotion-image generation’s being *cognitive*, in no way weakens the conclusion that emotions are perceptual. After all, *if a system is perceptual, then its stored states are perceptual* (at least in terms of their *ancestry*); their later being put to cognitive use is arguably beside the point. That might well be true of the visual system, which is uncontroversially perceptual. But here is the rub: as I have argued, Prinz has not yet established the e-somatosensory system *is* perceptual, so the truth of that conditional is moot. Furthermore, and most importantly, it seems that incoming e-somatosensory registrations having qualitative (but not representational) properties could be stored for later use in either emotion-type recognition or emotion image-generation during deliberation.³⁰ This suggestion is supported by Chalmers’ (2003) argument for the possibility of there being *direct phenomenal concepts* consisting not of stored percepts but rather of stored *qualia*.³¹ Of course, one might object to the notion of “stored qualia” on the ground that if a state’s being stored allows it to be *unconscious*, then qualia, which essentially are properties of *conscious* experiences, cannot be stored. However, I need not here settle the issue of whether qualia must be conscious, for as I use the expression, ‘stored qualia’ refers to whatever neurofunctionally individuated states underlie the ability to recall the *what-it-was-like* or the *how-it-seemed* to have a certain experience. Such stored states need not *themselves* have qualitative character; they need only have the power to cause states with qualitative character, as when *how it feels to burn your hand* is recalled from memory.

So neither of Prinz’s arguments for the perceptual claim rule out the possibility that emotional feelings are merely non-perceptual sensory registrations. As it turns out, his further argument for the *content* claim raises similar concerns. If you recall, the content claim is that, *assuming* that emotional feelings are perceptions, they can by themselves perceptually represent significant relations. Complicating matters here is Prinz’s stipulation that there are two kinds of *content* corresponding to two senses of ‘perceive’. Emotional feelings, he argues, “arise when we

²⁸ Prinz elaborates his “neo-empiricist” theory of cognition and conceptual representation in (2002), and a full discussion of it is beyond the scope of this paper. However, in (2004) he writes: “Cognitive states and processes are those that exploit representations that are under the control of an organism rather than under the control of the environment. A representation is under organismic control if the organism has activated it or maintains it in working memory. A cognitive state is one that contains such a representation.” And again: “percepts can be stored in memory and used as concepts on future occasions... The perceptual state is not under organismic control, but the state drawn from memory [for recognitional purposes] is.” (45-46)

²⁹ This is roughly Damasio’s (1994) “somatic marker hypothesis”.

³⁰ Wittgenstein’s (1953) argument against the possibility of a “private” sensation-language aside.

³¹ Chalmers writes: “The clearest cases of direct phenomenal concepts arise when a subject attends to the quality of an experience, and forms a concept wholly based on the attention to the quality, ‘taking up’ the quality into the concept.” (2003, 235) For a related account of how qualia could be directly “embedded” in a phenomenal concept, see Gertler (2001).

perceive our bodies. They register features of the internal world... And they represent relational features of the external world...” (230) Here his use of ‘perceive’ implies that *what emotions perceive is not what they represent*. Indeed, he is quite explicit about this: “In saying that emotions are perceptions of bodily changes, I mean only to say that they are states within our somatosensory systems that *register* changes in our bodies.” (57) Later, however, he asserts that there is a second sense [226] of ‘perceive’ in which emotions *do* perceive what they represent, “a sense in which we can say that core relational themes are perceived.” (225) It is to support this second sense of ‘perceive’ that Prinz distinguishes between his two types of content: “Core relational themes are the *real contents* of emotions, and bodily changes are their *nominal contents*.” (68) He then argues from analogy that just as the visual states caused by seeing dogs *detect* dog genomes (their *real content*) by *perceiving* dog appearances (their *nominal content*), emotional feelings *detect* significant relations by *perceiving* bodily-conditions.

One might take issue with this analogy on various grounds,³² but I believe that its main problem stems from the generality of Prinz’s notion of *detection*.³³ For as he is using the term, ‘detection’ does not denote a *perceptual* process at all. Consider the visual half of the analogy: a visual state caused by seeing a dog *detects* a dog genome when it *perceives* a dog appearance. In this sense of ‘perceive’, one *visually* perceives what is *seen*. The dog genome, then, is *not seen*, although it is *detected*. Similarly, an emotional feeling *detects* a core relational theme (a significant relation) when it somatosensorially *perceives* a certain type of bodily condition. But then it clearly follows that a significant relation is *not felt*. That is, the analogy provides us with no more reason to believe that a significant relation is *felt* than that a dog genome is *seen*: “real contents” are not seen, or felt, they are *detected*. So then, just how *should* we understand Prinz’s notion of detection? I believe that, at best, it amounts to a *referential* relation. Compare how, according to causal or historical theories of proper names, a name *refers to* and so (linguistically) represents the named entity: by virtue of its *causal links* to the entity and its function of operating as a proper name in the language.³⁴ So, on Prinz’s argument from analogy, if emotional feelings represent (*detect*) significant relations, they do so no more *perceptually* than the way in which a proper name represents that which is named.³⁵

Perhaps the problem here can be traced back to the generality of Prinz’s notion of “mental representation”, which he glosses as a state “that has been *set up* [by evolution or learning] to be *set off* by something” (53). That is, he argues that mental representations represent that with which they *reliably* and *functionally* co-vary, and notes that although emotional feelings *reliably* co-vary with both bodily conditions and (less directly) significant relations, they *functionally* co-vary only with significant relations. (60) After all, he points out, it would be *useless* for emotional feelings to represent the bodily conditions they register or feel, but *useful* for them to represent significant

³² See, for instance, Deonna and Teroni (2012, 71-74).

³³ Prinz (2004, 68) distinguishes two types of detectors (“appearance-tracking” and “essence-tracking”) from mere “indicators”, and identifies emotional feelings as appearance-tracking detectors. Given that the main difference between an indicator and a detector is that only the latter has structured parts representing the parts of what it detects, it is not clear to me how bodily feelings are supposed to qualify as detectors rather than indicators, but for present purposes that issue can be set aside.

³⁴ Cf. Kripke (1991).

³⁵ My concern here is related to the objection that significant relations are *unobservable*, to which Prinz replies in part by arguing that “If somatosensory systems contain states that represent core relational themes, then it follows that core relational themes are observable properties. To deny this without argument would beg the question.” (226) Fair enough. But I am not *denying* that somatosensory systems contain states that perceptually represent core relational themes; I am merely pointing out that Prinz has not convincingly argued that they do.

relations, and this supposedly settles the “real content” question. Perhaps that is true, but it begs the question of whether emotional feelings are representations at all. For *reliable* and *functional co-variance* can no more distinguish perceptual from non-perceptual sensory registrations [227] than can receptivity, systematicity, and being processed by a dedicated input system.³⁶ Emotional feelings might well represent *nothing at all*, and yet bio-functionally be quite *useful* by helping to motivate coping behaviors. And their having such adaptive functions might reflect their being reliably, causally, and bio-functionally *connected* to significant relations without their *perceptually representing* them.

What is missing from Prinz’s argument for the content claim is evidence that the e-somatosensory system incorporates a perceptual constancy *sufficient to objectify instances of significant relations*, that is, one that would allow such relations to be “filtered out” of the flux of incoming sensations proximally caused by emotion-related bodily conditions.³⁷ Furthermore, there are at least *prima facie* reasons to believe that such evidence would be hard to come by. After all, typical perceptual constancies operate on impingements of sensory surfaces that are only one causal link removed from the object or property being represented. Edge perception, for instance, is facilitated by biases within the visual system attuned to luminance discontinuities reliably and directly produced by light reflecting off of edge-surfaces and onto the retina. Tactual texture perception is even more directly causally related to physical properties of the touched object. Pitch perception is similarly facilitated by biases attuned to sound-wave frequencies directly produced by vibrations of the object being heard (via a similarly vibrating medium and ear drum). In such cases the psychophysical explanation of how the relevant perceptual constancies evolved is fairly straightforward, at least partly because of the *directness* of the causal regularities involved. It is certainly arguable that the e-somatosensory system, if it is perceptual, incorporates a perceptual constancy that allows emotional feelings to perceptually represent various profiles of the *bodily conditions* that directly cause them. It is far more difficult to conceive of how the e-somatosensory system could have developed a perceptual constancy that would enable it to perceive significant relations as holding between a subject and an indefinitely large number of situation types, especially given how indirect and multifaceted the causal relations can be. Of course, this does not show that it is *impossible* that the e-somatosensory system incorporates such a constancy; whether it does or not is an empirical question. However, Prinz’s failure to even consider the issue is a major lacuna in his argument for the content claim, just as it was in his first argument for the perceptual claim.

A final problem for the content claim has nothing to do with Burge’s distinction; rather, it follows from the tautology that significant relations are *relations*, along with a few plausible claims about relation perception. Typically, when relations are perceived, *both* (or all of) the *relata* are perceived. For instance, to *see* one object as being behind another (that is, to *see* an instance of the behindness relation), at least parts of both objects must be seen. Similarly, to *hear* a pitch as *being higher* than another, both pitches must be heard. Importantly, relations can also be *multimodally* perceived: for instance, an object that is only seen might be perceived as being behind another object that is only touched. There *may* also be cases of relation perception in which only one

³⁶ Prinz might here fall back on his notion of “semantic markers” (2006, 442) – signs of the way a given representation is *used* – to argue that emotional feelings represent significant relations rather than bodily conditions. However, sensory registrations can be *used* as effectively as perceptions. The question of whether a sensory state is *perceptual* hinges not on *what* it is being used to do, but rather on *how* it is being used to do it.

³⁷ As far as I am aware, Prinz does not discuss perceptual constancy in relation to the emotional system anywhere in his writings, although he does discuss visual color constancy and the vestibular-visual vertical constancy in (2012, 74-76).

relatum is perceived, while the [228] other is remembered or imagined.³⁸ But what seems clear is that instances of perceivable relations such as behindness cannot be *perceived* in isolation from *any perceived relatum at all*. Rather, it seems that such “bare relations” can be represented only *conceptually* and hence linguistically (e.g., as by the word ‘behindness’). On Prinz’s view, no receptive product of a bottom-up sensory process, such as an incoming emotional feeling, can in the first instance be conceptual, even if once it is stored it may become at least part of a concept that can be cognitively employed. So no such incoming emotional feeling can, *by itself*, represent a bare relation, including a significant one.

4. Alternative Possibilities for Significant Relation Representation During Emotion Occurrence

The weaknesses of Prinz’s arguments for the perceptual and content claims – claims about emotional feelings or “state emotions” by themselves – suggest that if we wish to develop a stronger theory of significant relation representation during emotion occurrence, we should focus instead on what he calls “attitudinal emotions”: componential states that include representations of particular objects in addition to emotional feelings. On the hypothesis that the e-somatosensory system is by itself non-perceptual, one possibility is that it cooperates with perceptual systems to produce multimodal *sensory-perceptual* representations of significant relations as holding between the attitudinal emotion’s particular object and a subject. Such a theory might be inspired by analogy with the way in which the (sensory) vestibular system sometimes cooperates with the (perceptual) visual system to represent a seen object’s *verticality* – a spatial *relation*.³⁹ A thorough discussion of this analogy requires its own paper. Here I only wish to point out that any such theory would have relatively limited application. For, as I mentioned above, it seems that any relation between two relata can be *perceived* only if at least one of the relata is perceived, and in many attitudinal emotions neither the relevant subject nor the relevant situation is *perceived*; rather, they are merely thought about, imagined, or remembered. Obviously, attitudinal emotions can be about *situations* – or have particular objects – that can be represented only non-perceptually (say, because they may occur in the future). Less obviously, attitudinal emotions can also represent significant relations as holding between non-perceptually represented *subjects* as well as non-perceptually represented particular objects. This is clearest in cases where *the subject of the relation* is not *the subject having the emotion*, as when, based only on [229] testimony, a parent fears that his or her child is in imminent danger. Here the subject of the significant relation is the child (since it is the one represented as being endangered by a situation), while the subject of the emotion is the parent.⁴⁰

³⁸ However, when one pitch is heard while the other is merely recalled (for example), it seems to me that their *difference* (the relation between them) is *not heard*. Perhaps it can be multimodally imagined/heard, or inferred from beliefs about the two pitches.

³⁹ Cf. Bischof (1974). The vestibular system is considered to be *exteroceptive* because it is bio-functionally sensitive to forces beyond the boundaries of the body. But, as should now be clear, that the vestibular system *detects* such forces does not entail that it *perceives* them (or that it allows the subject to perceive them). As far as I am aware, perceptual constancies play no role in the psychophysical explanation of how the vestibular system works. Also, the fact that the vestibular system sometimes malfunctions, causing dizzy feelings when the subject is stable, should not by itself encourage us to speak of unimodal vestibular *illusions* – as MacPherson (2011) does – or to conclude that vestibular sensations in such cases are *inaccurate*. Rather, it may be appropriate to speak of “vestibular illusions” only when the vestibular system contributes to *multimodal* percepts, as when the environment *visually looks* (or one’s body *somatosensorially feels*) to be spinning after bodily rotation has ceased.

⁴⁰ Of course, as others have noted (e.g., Nussbaum 2001), an emotion occurrence at least typically causally depends on the values or “point of view” of the subject having the emotion. I would add, however, that there may be

Of course, in *many* cases, the subject of the relation *is* the subject having the emotion, and to maximize its explanatory scope, a sensory-perceptual theory might hold that in such cases the subject is generally *somatosensorially* registered, thanks to the fairly constant access one has to one's own background bodily conditions.⁴¹ However, the further claim that such registrations *perceptually represent* the subject would require evidence that the somatosensory system incorporates a perceptual constancy that “filters out” and objectifies the subject *per se* from the ongoing flux of interoceptive and exteroceptive sensations.⁴² Confirming such a hypothesis would obviously be challenging. Furthermore, even if it could be confirmed, the sensory-perceptual theorist would still have to gather evidence of there being a multimodally incorporated perceptual constancy that *perceptually objectifies significant relations* on the basis of the limited sorts of mental resources available.

I do not deny that, despite such difficulties, it might still be worthwhile to further develop a multimodal, sensory-perceptual theory of significant relation representation during attitudinal emotion occurrence.⁴³ However, I believe that there is lower-hanging theoretical fruit to be picked, in the form of a multimodal sensory-*cognitive* view. The main motivation for this sort of view was already hinted at by my criticism of Prinz's second argument for the perceptual claim.⁴⁴ If you recall, I objected there that the evidence Prinz adduces to support his analogy between high-level visual processing and high-level emotional processing provides little (if any) support for his conclusion that emotional feelings are perceptual. For as he describes high-level processing, its main functions in the emotional case – emotion-type recognition and emotion image generation during deliberation – could occur even if incoming emotional feelings were merely non-perceptual sensory registrations, assuming that there are phenomenal concepts, or emotion-type concepts include phenomenal parameters, that could embed emotional feelings' qualitative properties. I also mentioned that common emotion-type concepts include *functional* as well as phenomenal parameters, and the significance of that point can now be highlighted.

Functional parameters are specified in terms of typical inputs and outputs. An emotional feeling's typical *input* is the profile of bodily conditions it registers – a set of bodily reactions [230] to a mental representation that typically also serves to represent the attitudinal emotion's particular object.⁴⁵ That representation's resemblance to “paradigm scenarios” (de Sousa 1987) or “distinctive universals in antecedent events” (Ekman 1999) can help to facilitate emotion-type

cases of empathy, or of theatrical acting, in which this is not so.

⁴¹ Damasio writes of such background states: “without them the very core of your representation of self would be broken” (1994, 150). This view seems to also be shared by Seth (2013), for whom selfhood includes (as a “central aspect”) “the experience of body ownership” – EBO for short – where “EBO is shaped by predictive multisensory integration of self-related signals across interoceptive and exteroceptive domains.” (565-66) More fundamentally, Seth holds that “mental representations of selfhood are ultimately grounded in representations of the body, with the internal physiological milieu providing a primary reference...” (567).

⁴² I set aside homunculus-related regress concerns here because the idea of somatosensory self-perception rests only on the possibility of one's perceiving a *part* of oneself (*perspectivally*, as it were). Hume (1739) famously claimed that he could not introspectively perceive himself, but perhaps he was not attending to the right sorts of somatosensory states.

⁴³ Perhaps the e-somatosensory system could modify the subject's somatosensory self-percept in somewhat the same way as that in which the vestibular system contributes information to the visual system that allows it to modify the subject's visual percept of a luminous line relative to the local gravitational field. However, even if such an effect could be confirmed, it would leave the connection between the modified self-percept and the multimodal perception of a significant relation mysterious.

⁴⁴ See above, pp. 13-17.

⁴⁵ I say ‘typically’ here because in some cases the representation that causes the bodily reaction is not identical to the representation of the emotion's particular object. See Herzberg (2009) for non-dysfunctional examples.

recognition.⁴⁶ An awareness of that representation *by itself* may underdetermine emotion-type, since there can be a variety of emotional reactions to even the most exact facsimiles of paradigm scenarios. But awareness of that representation *plus* awareness of the emotional feeling's qualitative and impulsive properties is commonly assumed to suffice for reliable self-attributions of emotion.⁴⁷ Of course, the process by which emotion-type recognition is achieved may vary from case to case. In cases where the feeling's qualitative properties are particularly distinctive, a phenomenal match may precede a functional match. But in cases of subtle or complex emotions, the opposite order of matching may be more common. The point is that the complexity of emotion-type concepts, which reflects the complexity of attitudinal emotions, facilitates emotion-type recognition by allowing for cross-checking of matches, likely increasing the reliability of emotion-type recognition.⁴⁸

But how does this relate to *significant relation representation* during attitudinal emotion occurrences? For the sake of simplicity, let us return to our snake-fear example. Suppose that a visual percept of an approaching snake triggers a profile of bodily conditions characteristic of fear, and this profile is registered by the e-somatosensory system.⁴⁹ High-level emotion processing could then be triggered: the feeling's qualitative properties might match – and hence activate – the phenomenal parameter of an emotion-type concept embedding similar qualia. This *may* be enough for me to recognize the incoming feeling as being one of *fear*, and hence as being one of a particular *significant relation type*, but it is not yet enough to represent an occurrent *significant relation instance*, which presumably includes the particular *relata* that are related. Here is where the functional parameters of the emotion-type concept come into play. For it is the emotion-type concept's *mapping* of typical inputs to phenomenal feeling types, and of such feeling types to typical outputs (impulses or behaviors), that allows the *particular relation instance* holding between *that* snake and *this* subject (in this case, *me*) to be represented. That is, the activated concept's multiple parameters provide a *relational schema* to be “filled in” by the emotional feeling, the relevant subject, and the particular object, in whatever modalities they might be registered, perceived, conceptualized, remembered, or imagined. In this case, the feeling is registered by the e-somatosensory system, the subject is registered (or perhaps represented) by the somatosensory system, and the particular object – the approaching snake – is represented visually. On the sensory-cognitive theory I am describing, it is the “fitting” of these attitudinal emotion components into the emotion-[231]type concept's “slots” that helps to reinforce the phenomenological impression of the occurrence's unity.⁵⁰ The end result would be a *conceptually facilitated* representation of a significant relation instance, even if no component of the underlying attitudinal emotion were itself a conceptual representation.⁵¹

⁴⁶ The emotion-type concept's “input slot” might, prior to activation, be associated with a “file” of typical input types or paradigm scenarios, against which the occurrent emotion's particular object is checked for resemblance. Prinz (2004, 100) suggests that such a “calibration file” plays a role in emotional feeling *causation*. I am suggesting that it also plays a role in the cognitive recognition of a significant relation during an attitudinal emotion occurrence.

⁴⁷ This is a presupposition of most emotion research that regards first-person reports of emotion-type as reliable data. Cf. Costall (2013) for discussion of this point.

⁴⁸ See Herzberg (2016) for an epistemic analysis of how such awareness could lead to the formation of reliable beliefs about the type of one's emotional state.

⁴⁹ Perhaps the relevant registrations of bodily conditions are already integrated into a unified e-somatosensory *percept* (representing the bodily condition profile) via intermediate-level processing, but that is an empirical question.

⁵⁰ Roberts (1988, 184) asserts that attitudinal emotions are “typically experienced as unified states of mind, rather than as sets of components”. I agree, although I think that the unity is phenomenological only, not psychological.

⁵¹ Note that the relation's *significance* need not be explicitly represented in order for the relation in question to *be* significant. But perhaps the occurrence of the emotional feeling is at least an *indicator* of such significance, even

This is a bare outline of a *cognitive recognition theory of significant relation representation during attitudinal emotion occurrence*, or more briefly, a “cognitive recognition theory”. We should note how different it is from *cognitive-evaluative appraisal theories* of emotion, such as Lazarus’s theory, which requires both a cognitive appraisal of a goal-relevant situation to occur prior to any emotional reaction to the situation, and a resulting “appraisal outcome” (evaluative judgment) to become part of the “emotional response configuration”.⁵² The cognitive recognition theory, like Prinz’s perceptual theory, has no such causal or constitutive cognitive requirement. But *unlike* Prinz’s theory, it suggests that attitudinal emotions can – and perhaps often do – occur *without* significant relation representation. This would occur when the necessary conceptual repertoire is absent (as it likely is in young children or non-human animals), or when the repertoire is present but high-level emotional processing fails to occur or to be completed.

This sort of cognitive recognition theory is also distinct from a “cognitive labeling theory” of emotion such as Schachter and Singer’s (1962), which holds that no type of emotion can occur prior to the subject’s cognitively labeling her feelings of general “arousal” as, say, feelings of fear. For the cognitive recognition theory presupposes (with Prinz) that emotional feelings of various types are phenomenally distinct, and hence that their recognition as being feelings of a particular emotion-type can be *erroneous*. The cognitive labeling theory, by contrast, implies that labeling a feeling of arousal as being of a particular emotion-type *makes it so*. However, both the cognitive recognition and cognitive labeling theories share the view that *contextual* factors can be key to identifying an emotion’s type, at least insofar as such factors are included in the associated representation of the attitudinal emotion’s particular object or distal cause.

One theoretical benefit of this cognitive recognition theory over any sensory-perceptual alternative of the sort discussed at the beginning of this section is that it allows for a largely *unified* account of significant relation representation during attitudinal emotion occurrence, without ignoring important distinctions between sensory registration, perception, and conception. It is equally applicable to *all* instances of attitudinal emotions, regardless of the modalities in which the relevant subject and particular object are registered or represented. Unlike any sensory-perceptual alternative in particular, none of the significant relation’s relata need be perceptually represented. So, insofar as theories are evaluated in terms of their explanatory scope, the cognitive recognition theory clearly seems superior to the sensory-perceptual alternative.⁵³

[232] Why might mature humans have developed the ability – and, indeed, the tendency – to cognitively represent significant relations as holding between a situation and a subject during attitudinal emotion occurrences? After all, it seems that attitudinal emotions themselves can motivate us (and other animals) to behave in biologically and socially adaptive ways without any such representation occurring, and significant relations can be represented conceptually in the absence of any emotion occurrence. Perhaps the answer has to do with the complexity of mature human social interaction. Most of our emotional reactions are relatively automatic and involuntary. But once I am cognitively aware of – and perhaps form a belief about – the emotion-type I am experiencing, and hence about the relation type holding between a given situation and subject, I can use that belief to infer what should be done beyond – or perhaps even contrary to – any impulses partially constituting the emotional response itself. I can choose to inhibit the emotion’s

if it does not perceptually represent it.

⁵² Cf. Lazarus (1991, 210).

⁵³ It might be objected here that, by a different standard of explanatory power, the sensory-perceptual view should be judged superior, since it holds the promise of applying to the attitudinal emotions of conceptually limited animals and young children, in addition to conceptually privileged humans. Fair enough, but see the next paragraph.

immediate expression, and then to *deliberate* about the best coping strategy. Having such an ability would surely constitute a considerable adaptive advantage in complex social situations, assuming that any conflicting motivations could be resolved in time for effective coping to occur.

Finally, the cognitive recognition theory may help to at least partly explain Prinz's intuition that emotional feelings can by themselves perceptually represent significant relations, quite apart from the problematic theoretical scaffolding he uses to support it. For even if *in theory* clear distinctions can be drawn between (passive) perceptual processes and (active) cognitive ones, disentangling the two sorts of process *in practice* is notoriously difficult. Especially during intense emotion occurrences, when attentional resources may be directed "outwards" towards prospective behavioral responses to the situation, cognitive activity may go unnoticed, or otherwise occur unconsciously. In such stressful moments, the emotional feeling may *seem* to be imbued with a representational significance it in fact obtains only via its activation of an emotion-type concept that partially consists of stored feelings of the same qualitative type. Indeed, a similar sort of illusion might occur regarding the content of the state representing the emotion's particular object: it may *seem* as if that representation's content has been changed by its co-occurrence with the emotional feeling, when in fact the impression of content-change is caused by that representation's having "filled a slot" in the relevant emotion-type concept's schema.⁵⁴ Particularly when that representation is a percept, there may be an illusion of significant relation *perception* where in fact there is only significant relation *conception*.⁵⁵ No doubt such an illusion – if illusion it be – coheres well with any predisposition we may have as philosophers or psychologists to stress the *value* of emotional feelings, after their long history being considered less worthy of serious attention than perceptions, beliefs, or certain kinds of desire. But disillusionment is a small price to pay for a more plausible theory, and given that the cognitive recognition theory was inspired in part by Prinz's second argument for his perceptual claim,⁵⁶ it seems that he would have to give up very little indeed by adopting it.

[233] References

- Bischof N. (1974). Optic-Vestibular Orientation to the Vertical. In: Kornhuber H.H. (eds) Vestibular System Part 2: Psychophysics, Applied Aspects and General Interpretations. Handbook of Sensory Physiology, vol 6 / 2. Springer, Berlin, Heidelberg
- Burge, T. (2010). *The origins of objectivity*, Oxford: Clarendon.
- Chalmers, D. (2003). The content and epistemology of phenomenal belief. In Q. Smith & A. Jokic (Eds.), *Consciousness: new philosophical perspectives* (pp. 220–272). Oxford: Clarendon Press.
- Costall, A. (2013), "Introspection and the myth of methodological behaviorism", in J. W. Clegg

⁵⁴ Cf. Goldie (2000, 2002), who argues that emotional "feelings toward" modify the intentional content of the representations of their particular objects. See Herzberg (2012) for criticism of such "blenderism".

⁵⁵ This illusion might be phenomenologically reinforced by the conscious experience of attitudinal emotions, in which the feeling and the representation of the particular object are concurrently held in working memory, the former perhaps seeming to "color" the latter with its affective quality.

⁵⁶ The other (more significant) source of inspiration was Burge's passage on the taste of wine, excerpted in section 2.

- (Ed.), *Self-observation in the social sciences* (pp. 67–80). New Brunswick: Transaction Publishers.
- Damasio, A. (1994). *Descartes' error: emotion, reason and the human brain*. New York: Avon Books.
- De Sousa, R., (1987). *The Rationality of Emotion*, Cambridge, MA: MIT/Bradford.
- Deonna, J. & Teroni, F. (2012). *The Emotions – A Philosophical Introduction*, Routledge, London.
- Dretske, F. (1988). *Explaining Behavior: Reasons in a World of Causes*. Cambridge, MA: MIT/Bradford.
- Ekman, P. (1993). Facial expression of emotion. *American Psychologist*, 48, 384-392.
- Ekman, P. (1999). Basic Emotions. In T. Dalgleish & M. Power (Eds.), *Handbook of cognition and emotion* (pp. 45–60). Sussex, U.K.: John Wiley & Sons, Ltd.
- Gertler, B. (2001). Introspecting phenomenal states. *Philosophy and Phenomenological Research*, LXIII(2), 305–328.
- Goldie, P. (2000). *The Emotions: A Philosophical Exploration*, Oxford: OUP.
- Goldie, P. (2002). Emotions, feelings, and intentionality. *Phenomenology and the Cognitive Sciences*, 1, 235-254.
- Herzberg, L. A. (2009). Direction, Causation, and Appraisal Theories of Emotion. *Philosophical Psychology*, Vol. 22, No. 2, 167-186.
- Herzberg, L. A. (2012). To Blend or To Compose: A Debate About Emotion Structure. In Wilson, P. A. (ed.), *Dynamicity in Emotion Concepts*. Lodz: Studies in Language, Volume 27. Frankfurt a. Main: Peter Lang, 73-94.
- Herzberg, L. A. (2016). On Knowing How I Feel About That: A Process-Reliabilist Analysis. *Acta Analytica*, 31(4), 419-438.
- Hohwy, J. (2013). *The Predictive Mind*, Oxford: OUP.
- Hume, D. (1739-40/1978). *A Treatise of Human Nature*. L. A. Selby-Bigge (ed.); revised by P.H. Nidditch, Oxford: OUP.
- James, W. (1884). What is an emotion? *Mind* 9, 188-205.
- Kolb, B., Whishaw, I. Q. (2014). *An Introduction to Brain and Behavior* (Fourth ed.). New York, NY: Worth. pp. 282–312.

- Kripke, S. (1991). *Naming and Necessity*, Hoboken: Wiley-Blackwell.
- Ledoux, J. (1996). *The emotional brain*. New York: Simon & Schuster.
- MacPherson, F. (2011). *The Senses*, New York: Oxford University Press.
- Nudds, M. (2012). Origins of Objectivity (Review), *Analysis*, Vol. 72, No. 1 (Ja 2012): 157-174.
- Nussbaum, M. (2001). *Upheavals of Thought: the intelligence of emotions*. New York: Cambridge University Press.
- Prinz, J. (2002). *Furnishing the Mind: Concepts and Their Perceptual Basis*, Cambridge, MA: MIT Press.
- Prinz, J. (2004). *Gut reactions: a perceptual theory of emotion*. New York: Oxford University Press.
- Prinz, J. (2006). Beyond Appearances: The Content of Sensation and Perception. in *Perceptual Experience*, Ed. Tamar Gendler and John Hawthorne, Oxford University Press.
- Prinz, J. (2012). *The Conscious Brain*. New York: Oxford University Press.
- Roberts, R. C. (1988). What an Emotion Is: A Sketch. *The Philosophical Review*, Vol. XCVII, No. 2.
- [234] Schachter, S., & Singer, C. (1962). Cognitive, social, and physiological determinants of emotional state, *Psychological Review*, 69, 379-399.
- Seth, A. K. (2013). Interoceptive inference, emotion, and the embodied self. *Trends in Cognitive Sciences*, Vol. 17, No. 11, 56.
- Wittgenstein, L. 1953. *Philosophical Investigations*. Oxford: Blackwell.