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BODILY AFFECTS AS PRENOETIC ELEMENTS IN ENACTIVE PERCEPTION

abstract

In this paper we attempt to advance the enactive discourse on perception by highlighting the role of bodily affects as prenoetic constraints on perceptual experience. Enactivists argue for an essential connection between perception and action, where action primarily means skillful bodily intervention in one's surroundings. Analyses of sensory-motor contingencies (as in Noë 2004) are important contributions to the enactive account. Yet this is an incomplete story since sensory-motor contingencies are of no avail to the perceiving agent without motivational pull in one direction or another or a sense of the pertinent affective contingencies. Before directly addressing the issue of affect in perception, we explain our peculiar, low-level conception of affect as a form of world-involving intentionality that modulates (minimally) bodily behavior without necessarily possessing informational value of any kind. We then address the deficiency concerning affect in enactive accounts of perception by examining some exemplary forms of bodily affect that constrain perception. We show that bodily affect significantly contributes to (either limiting or enabling) our contact with the world in our perceptually operative attentive outlook, in a kind of perceptual interest or investment, and in social perception.

keywords

Perception, enaction, embodiment, affection, phenomenology

1. Introduction

On the enactive view of perception, perceptual experience is essentially a form of active engagement with one's surroundings. Perception, rather than being conceived of as a process of passively receiving sensory information that may or may not subsequently and causally influence one's behavior, is from the very start understood to be constitutively grounded in actions and the abilities one has for meaningfully intervening in one's environment.

Noë's (2004) account stands out within the enactive discourse for a number of reasons, perhaps the most obvious being that it is focused solely on perception and not cognition overall. Noë emphasizes in sensory-motor detail the embodied character of the actions and abilities that constitute perception. While the appeal to the sensory-motor body is not itself a new idea within the discourse on enactive cognition (see Varela et al. 1991), Noë's treatment is singular for its compelling attempts to marshal enactive insights to address problems central to the philosophy of perception.

The major theoretical obstacle facing the philosophy of perception, as Noë sees it, is the problem of "perceptual presence." This problem is spurred by the tension between the phenomenological observation that when one perceives an object, (a) the target of that experience is the whole object, or, to put it differently, the experience includes a sense of the entire object's presence, despite the fact that (b) one in fact perceives it from a particular perspective and with a particular direction of attention, and, hence, one is immediately presented with just the side(s) or features with which one happens to be in perceptual contact. The problem is palpable when it comes to the sense of touch. To borrow Noë's illustration, when one closes one's eyes and holds a bottle with a firm grip, the tactile perception is a perception of the bottle as a complete object, although the organ of perception is placed in only partial and dispersed contact with the bottle (perhaps the palm and certain surface areas of the fingers are in contact, or it is simply clasped between the fingertips).

While there are alternative hypotheses on offer for assuaging this tension, Noë convincingly argues that only an enactive account can remain true to the phenomenology of this kind of experience. The main virtue of Noë's explanation is that it remains on the plane of the *perceptual*, whereas alternative (and, in fact, standard) explanations call upon the resources of

other cognitive domains to fill in the blanks, so to speak. The sense one has of the presence of the whole bottle, to stay with the previous example, is perceptual, even tactile, in nature. Although the remainder of the bottle is certainly not given in its full detail, one nevertheless enjoys an experience of its “virtual” presence, due to the fact that it is accessible to one. The tactile perception of given facets of the bottle is accompanied by a tacit understanding, a certain perceptual know-how or practical knowledge, concerning what it would take to touch other facets of the same bottle. More generally, to perceive an object is to be in partial contact with it while enjoying some sense of the sensory-motor contingencies, the coordination of bodily movements and tactile profiles, that would put one into contact with the rest of it. This practical knowledge is perceptual in nature because the sensory-motor contingencies pertain to possible perceptual profiles (whatever their modality or modalities).

An enactive account of perceptual presence integrates bodily factors into the perceptual event as an essential, constitutive ingredient. The body here is understood as what phenomenologists call the “lived body,” which includes the related notion of a “body schema” and the full ensemble of bodily factors prenoetically governing conscious life below the level of conscious monitoring and manipulation, and which may or may not be accessible to conscious awareness (Gallagher 2005). The role of the body schema pertains to motor control and precisely the kind of sensory-motor contingencies emphasized by Noë; it facilitates interactions with one’s surroundings, in contrast to the “body image,” a term that designates the ways in which the body shows up for consciousness as its intentional referent.

The lived body in its full sense, however, involves more than the sensory-motor body schema and body image. Moreover, we will argue, on a full-scale enactive account, bodily factors are constitutive of perception in more than just the way Noë explains in treating the problem of perceptual presence. Notably absent from the framework he elaborates is the *affective* dimension of embodied perception. Noë’s account falls short, first, due to its neglect of the relevance of the affective aspects (especially proprioceptive and kinaesthetic aspects) that derive from movement and that contribute to one’s practical knowledge of sensory-motor contingencies, something Sheets-Johnstone (2009) emphasizes in her discussion of the body as “animated.” In addition, the body as it factors

in Noë's theory of perception lacks an account of the complex motivational dimension that animates body-world interaction. Meaningful encounters with the world imply a perceiving agent with some basic attentive attunement to perceptually engage her surroundings, and sensory-motor schemata are a necessary but not sufficient condition for understanding enactive perceptual agency thus construed. Schemata of sensory-motor contingencies give an agent the *how* of perception, a tacit knowledge of potential sensory-motor engagements, without giving its *why*, the latent vectors or valences that give any potential sensory-motor engagement a degree of desirability, nudging the agent in one direction rather than another. The endogenously originating motivational viscera of the body are just as important to perception as the exogenously oriented sensory-motor elements.

The task of the present paper is thus to breathe some affective life into the enactive view of perception. Before approaching head-on how to understand the role of affect in perception, we will first explain our distinctively enactive and embodied conception of affect as a form of world-involving intentionality that modulates bodily behavior without necessarily possessing informational value of any kind. We then move to remedy the just-observed lack of appreciation for affect in enactive accounts of perception by examining some exemplary forms of bodily affect that constrain perception. We show that bodily affect significantly contributes to our contact with the world in our perceptually attentive outlook, in perceptual interest or investment, and in social perception. There already exists a significant and growing literature discussing affective phenomena in terms of embodiment and enaction. In this section we will advance a conception of basic affect, exploiting the resources of this literature to bring out some salient features that render affect both embodied and enactive. We will not concern ourselves with defending any general claim about the nature of all affective phenomena, e.g., whether they must always be enactive and/or embodied. We will rather consider in general terms what enactive and embodied affects are like.

The aim of embodied and enactive approaches to cognition generally is to overcome artificial barriers and divisions established in traditional theories about the mind, e.g., separating functions of the mind or brain from those of the body in principle, or separating various functions within the mind or brain, such as functions related to action and those related to

perception. The embodied and enactive views of the mind exhibit the family resemblance of seeking an integrative view of cognition across brain, body, and environment, with respect to diverse faculties or functions, a project admitting a variety of positions under its umbrella. Our present aim is to bring such integrative perspectives to bear on the contribution that affect makes to perception.

Let's be clear, to begin with, about where our interest lies. Affection, embodiment, and enaction are of interest to us insofar as they factor prominently in our "basic mentality," borrowing this term from Hutto and Myin (2013). Because our aim is ultimately to outline a theory of embodied and enactive affects as they prenoetically constrain and enable perception, we will keep our analyses restricted to the "basic" cognitive domain, the primitive domain shared with mammalian species generally.

For purposes of our analysis, we leave out of consideration affective phenomena involved in cases of propositionally formulated evaluation, appraisal requiring causal attribution, and, in general, any affective phenomenon necessarily involving rational reflection or deliberation. The sorts of phenomena excluded from our considerations are no doubt important, but they are unlikely resources for supporting a general claim about the nature of perception. Similarly, the sense of "action" in enaction is a liberal one. It need not involve any overt decision, deliberative effort, or reason-giving. It is loose enough to include, for instance, biologically motivated behavior, acting out of habit, or socially constrained behavior (e.g., "throwing like a girl"[Young 2005]) – cases where one may not realize the motive, manner or even the course of action until it is already underway.

We also note that there are a growing number of conceptions of embodiment on offer in contemporary discussions. Embodiment often refers to (a) the prereflective experience of the lived body, i.e., the complex of world-involving bodily sensations and feelings. This is the idea that one's body features *in conscious experience* as the *subject* of experience and not primarily or necessarily at all as its object or intentional content. But embodiment can also refer to (b) the inclusion in cognition of certain subpersonal processes *not accessible to conscious awareness* that are distinct from but pertinent to brain activity. This is the idea that the body more broadly, and not the brain alone, is necessary for cognition (or at least certain forms of cognition). While these ideas are complimentary and likely

lend mutual support to one another (Thompson 2007, Colombetti 2011, Maiese 2011), they are distinct and should not be completely conflated. In many cases, they call for different methodological approaches and draw on different theoretical resources.

The former includes phenomena of first-person experience accessible to conscious awareness as its primary material, the analysis of which involves the reflective techniques of phenomenology and the analytical resources of the philosophy of mind. The latter concerns the body's physiological and neural makeup and must ultimately be cashed out by developing and deploying methods for experimentally testing hypotheses about the workings of the body. In many cases there is overlap, i.e., phenomenology and cognitive science can have the same referent and support the same theses about that referent, although they approach it from different perspectives. Yet, the two approaches do not fully or always overlap. There are manifestly many subpersonal elements and processes that have no phenomenal correlate, that leave no trace in the realm of conscious awareness (Ellis 2005, 8, 50, 70; Gallagher 2005; Johnson 2007, 61-68). And even neural events that usually have a phenomenal correlate do not always have one.

While we must for that reason take care to observe the differences in approach and the points where one approach is more apt to contribute than the other, enactivism's integrative ethos calls on us to frame the two approaches within a single perspective. The personal (i.e., the consciously experienced lived body) and the subpersonal are brought together, for instance, using the resources of the theory of autopoiesis (Varela et al. 1991; Thompson 2007). They are two sides to a single self-organizing living system. The idea of the body schema is another apt conceptual tool for bringing the personal and subpersonal together (Gallagher 2005). The body schema denotes some of the prenoetic elements that constrain and shape conscious experience, elements that may or may not be accessible to conscious awareness. As Merleau-Ponty's (2002, 296) words, written in the mid-1940s, testify, this integrative perspective is neither entirely new nor inimical to an approach that takes the phenomenal seriously: "My personal existence must be the resumption of a prepersonal tradition."

That is an important point to make especially in the present context. Often discussions of affective phenomena concerned with their enactive and

embodied character preferentially treat the affective phenomena of feeling and emotion as *consciously* felt phenomena, even if in a “pre-reflective” mode (Maiese 2011, Colombetti 2011, Slaby 2008, Sheets-Johnstone 2006). As we think of them, affects are not restricted to the domain of phenomenal consciousness, although they may certainly have an effect on what experience feels like. Affects may or may not reach the threshold of conscious awareness. I may consciously experience the blues, or I may be unaware that my whole demeanor reflects the blues. Hence, we prefer the language of “affect” and “affection,” which is perhaps less burdened than that of “feeling” and “emotion” with connotations of conscious awareness.

A reflection on the intentionality of affect will clarify its embodied and enactive character. The first noteworthy observation to make in that regard is that such affects are world-involving (Ellis 2005, Ratcliffe 2005, Slaby 2008, Colombetti 2011). They have an intentional referent. This conception of affection is thus at odds with theories that construe them as non-intentional, e.g., the views of such disparate figures as Husserl (2001b), Goldie (2000), and Damasio (1994). For Husserl, a specific affect requires interpretation in order to have an intentional referent; for Goldie bodily feelings are in themselves referentially inscrutable; and, similarly, for Damasio feelings are only world-involving to the extent that they are suitably associated with exteroceptive data. As we understand it, bodily affect is a *sui generis* form of intentionality, directed at some specific object, or, in some cases, simply directed at the world in general.

2. Embodied, Enactive Affects

There are many different views of how affective phenomena may be intentional, so we would do well to say how affection, in our sense, is *not* intentional. First, although affection is intentional in the sense of world-involving, it does not present information about the world, i.e., it does not present its referent as possessing some valuable or desirable quality (*à la* Goldie’s (2000) “feeling towards”). There are affective phenomena of that sort – “emotion” being the typical label for them. But affect in our sense is something more primitive. Second, they are not feelings “of” the body, in the sense that the body itself is the intentional referent (Slaby 2008). Subsequent reflection on an affect may reveal something about what is going on in the body, but in its initial occurrence and in its primitive form, affection is not an episode of bodily self-monitoring. And, again, there may be feelings whose function is primarily to inform one of bodily ongoings (e.g., an acute pain), but that is not a characteristic of all affects.

Bodily affect has a more practical import. It is an ingredient to larger intentional processes that it serves to initiate and modulate. Consider the case of boredom (to borrow an example from Heidegger 1995). Boredom is not a feeling that gives any information about the intentional content of experience (whether it is taken to be an object or one's own body), although it is necessarily "directed" to some intentional content. Think about a lull during a movie or a piece of music. It is the lull that bores one. But what reveals the intentionality of the affect – after all, the movie or music itself is not inherently boring, since one may be watching or listening along with someone else who is enjoying herself – are things like the urge to change the channel, skip the track, or do something else altogether. The affect thus functions as a latent urge to act (Varela and Depraz 2005; Thompson 2007; Thompson and Stapleton 2009).

But the affect is more than potentially related to action. Even before one takes measures to overcome one's boredom, the boredom already modulates one's viewing or listening behavior, as is apparent in the way one arranges one's body, perhaps without even noticing, in a "bored" manner, or in the way one begins to fidget, widen one's eyes, give vent to an exasperated breath, etc. These bodily expressions are moments of the affective phenomenon of boredom, when something is just barely endurable and requires effort to hold one's attention. Affected in this way, one finds oneself immediately embodying a certain meaningful stance towards one's situation, a pull that resonates with and perhaps already prepares, as a kind of crude "pre-shaping," for further courses of action.

Affect is not only embodied in the sense that it is reflected in certain bodily movements or postures, such as those just described. Affect goes deeper. Current research on emotion cognition suggests that affective phenomena like fear – which comes in different forms, but surely in many instances fits the bill for affect in our sense – are determined by the functioning of the circulatory system. Even the heartbeat influences how and whether fear-inducing stimuli (images of fearful faces, in the reported experiments) are processed (Garfinkel et al. 2013). When the heart contracts in a systole phase, fearful stimuli are more easily recognized, and they tend to be perceived as more fearful than when presented in a diastole phase. That is, the fact that we are flesh and blood creatures equipped with beating hearts (rather than being, say, brains in vats) explains in part why we have just the sorts of affective states that we do.

There are two important respects in which an affect is inherently vague.

The vagueness is frequently captured in the terminological rendering “background feeling” (Ratcliffe 2005, Slaby 2008, Colombetti 2011), although this is not entirely appropriate. The background feeling thus conceived is not accompanied by a foreground feeling as the genuine notion of background would seem to require (i.e., a non-heterogeneous figure/ground whole). Nevertheless, the features of affective phenomena to which that term refers are salient. On the one hand, if one starts looking to the body for the affect, it remains vague in its localization, and may be distributed throughout the body (Varela and Depraz 2005; Slaby 2008). The feeling of boredom (if it reaches a conscious state) may be experienced, pre-reflectively, as a diffused tension felt in various parts of the body (e.g., shoulders, neck, face). On the other hand, whether conscious or not, an affect is indeterminate in the way it modulates one’s directedness to the world.

There are at least two senses to this indeterminacy. It consists, on a smaller scale, in the variety of ways the same affect is embodied and enacted. Boredom can be felt in different ways, diffused in different parts of the body corresponding to the pertinent movements the affect engenders and/or actions it urges one to perform. One feels pulled, and both the pull and where one would be pulled are multiply realizable. Various postures and movements may all serve equally well to instantiate the affect, and each may point to some different path of action, e.g., tightening one’s grip on the remote orients one to the act of changing the channel, leaning forward and anxiously tapping one’s feet puts one on the path of simply escaping the situation.

On a larger scale, the indeterminacy may also consist in the affect’s place in the larger context of one’s life. Affection should not be thought of atomistically. To get a sense of this, consider the affects that figure in (a) an undertaking that is itself immediately gratifying (e.g., hearing a favorite song), (b) embarking on and pursuing a project with a definite end-point (e.g., driving to work, writing a paper), (c) seeking to be a certain way (e.g., to maintain a certain lifestyle or cultivate a certain moral trait). There is a bodily affect peculiar to each of these sorts of cases, and for (b) and (c) there are affective spectra. Picture, for instance, the affective changes that take place in the phases of the lead-up, actual execution, and aftermath involved in giving a paper or doing an interview (either of which could be construed as an instance of (b) or a stage in an instance of (c)). Affects of anxiety and excitement build up gradually, perhaps with some sudden jolts, perhaps with

breaks in the process – but in any event, instances like those just mentioned illustrate that affect is a temporally extended process that allows varying degrees of complexity in its enactment and interrelation with other affects.

To borrow (with some modification) an idea from Darwall (1998), there is an indirect object to this sort of affection. The affect may have a determinate reference, but the significance of that reference is determined largely by something more amorphous, namely, one's concern, one's present aims, which, as just indicated, may be shorter-term, longer-term, or even temporally indefinite. The affect has significance especially in light of one's self-organizing behavior, the goals of which may not be (and need not be) consciously formulated or available (Ellis 2005, Thompson 2007). And, as Darwall (1998) and Schmid (2009) argue, the concerns that shape an affect's intentionality are not necessarily egocentric.

Perhaps that seems too much to pack into the primitive, unreflective phenomenon our desideratum is supposed to be. But take the following example as a summary illustration of the kind of affect we are interested in. Imagine that you have just baked and decorated an elaborate cake for a dear friend's birthday. A little while after finishing the project, you return to have another look at your creation. As it happens, you enter the room just in time to stop your pesky dog from leaping up to consume the cake. Presented with this scene, you find yourself completely thrown into getting between the dog and the cake.

No appraisal, deliberation, or decision is necessary. But a dread at the situation spreads through you, manifesting itself in a feeling of dread, but also involving certain bodily changes of which you are not conscious but which do something to your ability to move, and motivate something in regard to how you experience the situation. Your whole bearing is affected as you stiffen and forcibly hold your breath; and that affective impulse carries over into your act of intervention. The affect's trigger manifestly underdetermines it. The visceral and autonomic changes that take place, and feeling that floods your body at that instant reference the indirect object of the cake's meaning to you as the product of your own effort and, just as much, the cake's meaning as a gesture of friendship. To be perfectly clear, you may not recall any of that, in that precise way, and your affective experience may not convey it in any explicit way. Indeed, things are much the other way around. The concern informs the affect, and the affect would not modulate your behavior –

your panic, desperate bearing, cries, movements – in precisely the way it does in this case without that oblique reference.

We could also think of other cases that more clearly highlight the subpersonal elements that may characterize affection. The indirect object and the affect itself may not be anything at the level of conscious awareness (like the personal investment in the cake), but, as in cases like hunger or fatigue, may rather have to do with the more basic biological goals of homeostasis that one has as a self-organizing living system (Ellis 2005). Such processes are behind the curious statements people sometimes make, like, “I didn’t realize how hungry/tired I was until...” In commonplace instances like that, one may not consciously discern an affect’s presence until after the fact, and the indirect object need not be brought to light even in that subsequent reflection.

3. **Illustrating Affect in Perception**

Now that we have a better idea of what a bodily affect looks like, we can move to consider how that affection enactively factors in perception. First, let’s consider particular instances of the hunger and fatigue we just mentioned. Somaesthetic factors such as hunger delimit our perception and action possibilities, as well as our cognitive possibilities. William James once noted that an apple appears larger and more invitingly red when one is hungry than when one is satiated. A recent study (Danziger et al. 2011) reinforced the idea that hunger can shape, and perhaps even distort, cognitive processes. The study shows that the rational application of legal reasons does not sufficiently explain the decisions of judges. Whether the judge is hungry or satiated may play an important role.

The percentage of favorable rulings drops gradually from ~65% to nearly zero within each decision session [e.g., between breakfast and lunch] and returns abruptly to ~65% after a [food] break. Our findings suggest that judicial rulings can be swayed by extraneous variables that should have no bearing on legal decisions. (Danziger et al. 2011, 1).

In one sense, such affective factors appear “extraneous” only if we try to think of cognition as something that is disembodied, although clearly they may be extraneous to the formal aspects of legal reasoning. In any case, it seems reasonable to think that this embodied hunger affect has an effect on the jurist’s perception of the facts, as well as on the weighing of evidence, and doesn’t appear out of nowhere just when the judicial decision is made.

Fatigue too can have an effect on perception. This has been shown indirectly in experiments by (Proffitt et al. 1995; 2001) which show subjects estimate the grade of an incline to be steeper whilst wearing a heavy backpack in comparison to wearing none. Typically, in experience, there is not a simple, isolated affect – there is rather a cocktail, a *mélange* of aspects that make up affective state. My trek up the mountain results in a perception that is informed by a combination of my fatigue, my troubled respiration, my hunger, my pain, my feelings of dirtiness, and the kinaesthetic difficulty involved in climbing. More generally we can take it that the mountain path looks quite different and less challenging after a good night’s sleep, not because of certain objective qualities that belong to the path, but because of my affective state. These affective aspects are qualifications on my perception as they more generally constrain my being in-the-world in some specific way. As such affects may clearly manifest themselves in the effects they have on perception and action, even without me being aware of them, they may also have an effect on my phenomenal consciousness.

There’s a difference in what it is like to be on the mountain path in the morning after a good night’s rest, and what it is like to be on the very same mountain path at the end of a long day of hiking. At the same time, these experiences are experienced not purely and simply, but are modulated by intentionality. My physical state may be felt as an overwhelming fatigue that is a barrier to any further climbing; or it may contribute to a feeling of satisfaction as I sip a glass of wine in front of the fire at the end of the day. (Gallagher, in press)

The connection between affect and perception has been noted by many enactivists (Thompson 2007; Thompson and Stapleton 2009; Colombetti 2007; Ellis 2005). Here we want push this idea further by describing and analyzing a handful of affective phenomena that are pervasively integrated into perceptual experience.

4. **Attentive Attunement in Perception** One role of affect in perception occurs in the form of taking notice or paying attention. This is an idea of central importance in phenomenology. Edmund Husserl (2001a) theorized that for something to stand out in perceptual experience it is necessary that it have an affective appeal. It is not so strange to think that taking notice of things like music, food, sports, a friend’s company, and the like involve an appeal like this. Husserl picks up on that

insight and generalizes it. Shifts of attention are instances of our focus being drawn in one direction or another by the affective ebb and flow of what we experience. My attention to a particular book may motivate a conscious decision to read in a dimly lit room, which can carry me only so far before I am compelled to turn elsewhere to ease the strain of that activity. A certain patch of flowers, perhaps with an attractive color or shape, stands out in the cluttered scene of a garden to the extent that it offer my gaze a place to rest, literally setting the rest of the scene in relief.

Husserl (2004) describes such affective states involving tension, resolution, exertion, unease, and satisfaction/dissatisfaction as modulating our perceptual (but not only perceptual) attention. It would be easy to overlook the way in which the affect involved in attention is embodied. Even in its properly felt dimension, the affect is not especially prominent. Yet attention is embodied in a variety of related ways. In visual experience, for example, attending to something may involve squinting or opening the eyes widely, it may involve a contortion of the face all the way from the scalp down to a mouth left gapingly open or with pursed lips, and so on (borrowing from Bergson's (2001, 27-28) excellent description). Even in less extreme cases, there is some tension, at least in the way the eyes dart about, which always involve kinaesthetic accompaniment from extra-ocular muscles.

Ellis (2005) elaborates an enactive theory of attention very similar to this. On his view, something must have emotional appeal for one to attend to it (see also Hutto 2006, 33-35). As Ellis argues, the enactivist view of affective phenomena implies that they must drive perceptual experience, and not *vice versa*. As we observed above, the intentionality of affect gets meaning primarily from aims one already possesses. Perceptually registering something may be an insufficient condition for being affected in a certain way. The affect may be evidence of some standing goal or project, it may be the efficacious presence of the aim determining one's stance in relation to what one encounters in one's environment. But one might think that this only goes as far as one happens to be in an affective state that motivates perceptual attention, and there is no *a priori* reason to think one must always be in such a state.

This problem would disappear if there were some attentive attunement latently operative in perception generally. It may not be hard to concede certain cases where affect drives perception, but we want to understand how

it might do so more generally. Such claims about attention and perception are wanting without a pervasive affective attunement peculiar to perception. Both Husserl and Ellis seem to recognize this. Husserl (2006) appeals to curiosity as the basic attentive outlook operative in perceptual experience. Ellis (2005, 14-18, 106-110) also mentions curiosity, but draws on Panksepp's (1998) notion of a "seeking system" as the driving force of perception, guaranteeing the constant necessity of some affective engagement with the perceived world, however subtle.

Curiosity and seeking behavior plausibly explain how affect might drive perception inasmuch as they are non-acquired dispositions that do not point to any final satisfaction (they are not "consummatory"). Such a frame of mind is the default setting, as it were. One might also think of this in more general terms that involve an anticipatory aspect of perception (and cognition in general) – something that Husserl (1991, 2001a) puts down to the temporal (protentional) structure of consciousness. We are generally directed to whatever the next thing might be. In Heidegger's existential expression, we tend to be "ahead of ourselves" – a certain basic structure of our system which gets disrupted in cases of depression. Generally speaking, however, when one has no particular aim (e.g., in food, a friend's company, etc.), in the stretches of time between consummatory and regular life events, one does not become an affective zombie. One's restless regard, perhaps freely floating to explore the random contours of a scene, may be subtle, but a subtle affect is no less an affect, a lesson Hume forcefully taught, but which is admittedly no easy task to keep in mind at all times.

- 5. Perceptual Interest** Affect figures in perceptual experiences in other ways besides its presence in our disposition to perceptually explore our environment merely out of curiosity, or our basic anticipatory inclination connected with survival. One such affect is closely related to the phenomenon of perceptual presence elaborated by Noë (2004), namely a sense of interest or investment. While the language of "interest" easily gets tangled up with that of "attention" (e.g., to "take an interest" is roughly equivalent with attending or noticing), we have something distinct in mind. Perceptual interest denotes the affective sense of the stakes or costs involved in exchanges with one's environment. This phenomenon is very close to what Schmid (2011) calls a "sense of ability." This is not, however, to be confused with what phenomenologists refer to as the "I can," which means, roughly, the intuitive possession of a sense of skill or competence. Rather, even if one is

capable of some feat in those terms, one might still not feel “up to the task,” or feel inclined to do the thing, which is the sort of affective nuance the sense of interest is supposed to highlight.

As we discussed above, perceptual presence is the sense one has of the perceptual accessibility via bodily movement of non-apparent aspects or sides of a perceived object, or, more broadly, of what is not presently directly perceived (e.g., what lies at one’s back or in an adjacent room). Delicately interwoven with that perceptual sense of presence is a sense of the affective stakes of making something available or present. As the term “affordance” incidentally suggests, there are definite costs involved in transactions with environmental affordances. One’s environment affords many possibilities for action, but each has its affective price tag, and they are not all equally affordable.

One thus not only has a practical understanding of accessibility, but an affective take on that same accessibility, in terms of interest or inclination to follow through. The latter may also involve a perceptual sense of the ease or difficulty of making something present. Proffitt’s work, mentioned above, illustrates this fact well. Proffitt et al. (2003) describes how the estimation of distance is influenced by anticipated effort. Subjects saddled with a backpack tend to overestimate perceived distance, whereas those without backpacks do not. Proffitt et al. (1995) similarly describes how subjects overestimate the degree of incline of a slope when fatigued, and this may translate into a lack of inclination in the subject which further informs perception. The hill looks not only steeper, but uninviting. This research suggests that perceptual experience is informed by one’s present affective state. One’s circumstances appear very differently depending on how one is affected, e.g., the burdens, whether externally (e.g., by a backpack) or internally (e.g., fatigue) imposed, presently carried by the body insofar as these are relevant to potential tasks to be undertaken within those circumstances.

Perceptual interest is distinct from the tacit knowledge or practical mastery of sensory-motor contingencies, as an affective outlook on those sensory-motor contingencies in terms of possible costs, like expenditures of effort in physical exertion. Taking this affective phenomenon into account importantly enriches one’s understanding of perception, since it clarifies the nature of individual perspective in perception. A perceiving agent’s perceptual stance and outlook is determined by a mastery and tacit grip on the pertinent sorts

of maneuvers needed to access environmental affordances in suitable ways. But this understanding, once acquired, is a relative constant, a generic set of skills suitable for most transactions with the world, with possibilities for supplementation and specification as needed. To perceive a situation in light of sensory-motor contingencies is close to perceiving it impersonally, as *one*, that is, anyone with the standard perceptual skill set, would perceive it.

With only that in hand, one lacks a sense of the individual significance of perceptual experience. That significance consists at least in part in one's perceptual interest, inclination, or investment, the sense of one's own stakes in a given situation. A broad spectrum of individual life circumstances may in this way be brought to bear on a perceived situation. These circumstances include not only the physical burdens and impediments, such as a heavy backpack, or the endogenous impediment of fatigue from physical exertion just undertaken. There are also broader circumstances having to do with time of day, since one typically is energized at the start of the day and tired out toward the end, or even having to do with longer-term life phases, as youth and old age surely shape one's perceptual interest. While everyone is affected by such circumstances in one way or another, each individual lives them out in a unique way.

Perceptual interest is not a monolithic phenomenon, given its many possible determinants. It would be a grave omission to leave out further possibly relevant circumstances like one's involvement in various projects and practices, social groups, and ways of life. Whether consciously recognized or not, these may influence one's perceptual interest. This includes the influence that skills and sensory-motor contingencies might have. A skilled surveyor, cartographer, bird watcher, or animal tracker perceptually searches for and finds in a landscape with ease what would be very difficult if not impossible for the novice to discern. In such cases, the affective solicitude of an affordance hinges on one's skill or competence. So, while skills (including the mastery of sensory-motor contingencies) are distinct from perceptual interests, they complement one another. Whether or not one faces a situation with the relevant competence or degree of competence can impact how approachable it appears and, hence, one's perceptual inclination in relation to it.

Social interactions, roles and groupings also have their influence. To modify Proffitt's scenario, imagine the hill is not just any hill, but the hill where

one first met one's spouse, or a hill where some terrible incident once befell one. Or, again, think of the affective import of the distance in situations where one would be seen by others, negatively impacting one's "image" (e.g., in possible shame or embarrassment). In some social circumstances one may find a particular setting to be of more interest than if one were with a different group, or alone.

Before one reflectively considers how these sorts of scenarios will unfold, one may already be gripped by an affect in the form of an altered bodily demeanor presaging a more elaborate response to certain aspects of the situation in light of the potential costs and benefits of a given course of action. At the level of felt awareness, the costs and benefits virtually embodied in the affect add up and determine whether and to what extent one is "up to" facing a given situation (Schmid 2011), a nascent inclination or aversion. Such an affect is properly perceptual to the extent that it figures in the flesh-and-blood phenomenon of perceptual presence. The sense of the presence of the other side of an object, of what is behind one, of what is in an adjoining room, and the like, touches – over and above one's generic strategies for bodily coping with the environment – one's individual condition with all of its strengths and weaknesses. In a very simple example, what Noë calls the "grabbiness" of an object is dependent not only on the current pattern of one's sensory-motor contingencies and whether it is near or far, and properly shaped and weighted, etc., and not only on whether one is in a state of pain, or fatigue, or fear, etc., but on whether one is even concerned about (or inclined to) the possibility of grabbing the object. The idea of an affective perceptual interest operative in perception might best be understood as a refinement of what Noë (2012) dubs the "fragility" of presence. Presence is fragile because it depends on one's ability to gain access, which is "always at least potentially problematic" (41). The ability to access something that is present but not immediately presented leaves open in principle the possibility of failure, which can have multiple causes. Perhaps the failure is the result of the inherent difficulty of a task, limitations of what a given skill can accomplish, faulty expectations, imperfectly practiced skills, drawing on the wrong set of skills, or misapplying the right set of skills. In any case, that fragility is rooted just as much in one's own biological, personal, or social fragilities, which are not captured in sensory-motor abilities alone. Rather, they can be embodied in a perceptually relevant way in an affective perceptual interest as we have described it.

6. Bodily Affect in Social Perception

So far we have discussed the role of bodily affect in perception within the relatively abstract confines of simple perceptual encounters with one's environment. There is good reason to believe, however, that perception is also an interpersonal or intersubjective phenomenon. Perceiving is a matter of getting along with other people as well as of getting along in one's surroundings. Indeed, it has been argued on phenomenological grounds that perceptual presence is dependent on a kind of tacit awareness of other possible perceivers, a phenomenon Zahavi (2001) calls "open intersubjectivity." To Noë's idea of perceptual presence grounded in an understanding of sensorimotor contingencies, the notion of open intersubjectivity adds that one has, over and above that, a sense of the virtual presence of the same perceptual target for other possible perceiving subjects as well. And, moreover, other minded beings also feature in experience and require a unique grasp of "self-other contingencies" for understanding their peculiar kind of presence (McGann and De Jaegher 2009).

What is perceived is perceived as publically available, and not as the private property of a solipsistic subject. The perceptual habitus is a socially informed one. (Arguably, so is our natural cognitive endowment, viewed in light of its natural history [Hutto 2006, 29-31; Hutto and Myin 2012, 151-153].) Given the intimate relation of perception and bodily affect as we have elaborated it so far, it would be reasonable to suppose that there might be an interpersonal significance to at least certain forms of bodily affect at work in perception as well. In fact, something like this is already a part of theories of social cognition that construe our basic manner of understanding other creatures like ourselves to be minded as a form of direct perception (Gallagher 2008, Zahavi 2011). This view distinguishes itself from simulation and theory theories of social cognition that in one way or another appeal to something beyond perception (and a number of allied non-conceptual capacities for interaction) in making sense of social cognition. The direct perception view takes perceptual experience to be "smart" enough to put us in contact with other minded beings. More specifically, directly perceiving someone as minded typically involves the immediate recognition of intentions and emotions in the other's movements and contextualized behaviors.

Direct social perception can capture quite a lot about others, such as the emotional tone of a voice, the direction of a gaze, the target of a movement in progress, even in very early stages of cognitive development (Gallagher 2008, 539). Our interest in such phenomena is specific. While in

debates about the nature and varieties of social cognition one's concern naturally centers on the content of the experiences or cognitive episodes in question and the cognitive resources necessary for enabling that, we want to highlight the broader significance of this kind of cognition for the perceiver. This is in keeping with the enactivist emphasis on perception as an interaction or exchange rather than the mere reception of information or registering of stimuli. Understanding bodily affect in social perception requires paying closer attention to the perceiver in interpersonal interactions.

When we view the social perceiver *in medias res*, we readily recognize the affective and embodied character of perception in a way that is less apparent in contexts where other people are not implicated. One's perceptual stance while watching a cloud pass or a leaf fall from a tree may lack the expressive quality that is the norm when one is in the presence of others. But think of the variety of affective possibilities when others are implicated: the stance of watching passers-by, of peaking into a room of familiar faces, of listening attentively, of being in a heated quarrel, or accidentally meeting someone with whom one was recently quarreling. Each instance exemplifies a certain embodied affect, e.g., tensing or loosening of posture or facial expression, folding one's arms, gesturing with one's hands, etc. Bodily affect is even more prominent in tactile perception (e.g., hugging, shaking hands, brushing against someone in a crowd), undoubtedly because in such cases one is unburdened by assumptions about the cognitive or informational character of perception and sees it in its ordinary pragmatic context.

Importantly, bodily affect is mediated by acquired habits of social behavior. In response to the worry that such habits are extra-perceptual, we maintain that the affect is no less perceptual on account of its complexity and history. Habits may certainly arise from non-perceptual activities, but once acquired they may serve perceptual ends. Learning a skill often involves careful observation, deliberation, reasoning, conceptualization, and so on. After one has become practiced in the skill, however, it can in many instances be efficacious perceptually, setting aside its higher-order cognitive training wheels, as recent discussion of expertise show so well (see Dreyfus 2002). The situation is the same for social perception as well. One certainly does have to learn how to hold oneself and regulate one's expressive behavior in various social circumstances. Once a behavior of this sort becomes routine,

it becomes part of one's repertoire of perceptual bodily affect.

Bodily affect is present in social perception in even simpler forms. This is demonstrated in studies of infant cognition (Maiese 2011, 158-162) and further supported by research into mirror neurons. Infant imitation, which can occur shortly after birth, takes place when an infant adopts for herself a seen facial expression (e.g., smiling, pursing of lips, protruding the tongue). Since taking on an expression typically associated with a certain affective state tends to engender that very state (Darwall 1998, 265), or some enactively related state (Gallagher 2008), we should not think of the infant's imitation as an affect-less bodily movement. This phenomenon therefore illustrates well the possibility of bodily affect's presence in social perception in a way that clearly does not depend on more sophisticated cognitive abilities than perception itself affords.

Here it may be averred that the infant's imitation is a distinct event from the perceptual experience engendering and accompanying it. To grasp on phenomenological grounds why that is not so, think about your own experience of having a look of surprise. In that case, the bodily affect (mostly, but not exclusively, spread across the face) is part of the perceptual experience, i.e., you are surprised at what you see. When you look at something in a surprised way, it is precisely your perceptual intentionality that is modified. It would be a phenomenally distinct act without the surprise. We should understand the case of infant imitation analogously. The infant gives a smiling look to the person she imitates. And, given the exploratory and self-revising character of infant imitation as reported in Meltzoff and Moore's (1983, 707) study, one cannot easily write off the infant's imitation as mere mechanical reflex behavior (like a "knee-jerk" reaction) in contrast to adult expressions (see also Gallagher 2005). Such facial expression, on both sides (infant and care giver), is part of an initiated interaction, a process that involves social affordances. Something in addition to exteroceptive sensory information, or sensory-motor contingencies, which by themselves are too impoverished to account for social cognition, is needed to underwrite the phenomenological observation that one can *see* someone else's emotion or intention in her expressive behavior.

The neuroscience of mirror neurons may help to explain some aspects of bodily affect in social perception. These neurons, which activate when we engage in an intentional action, and when we see another person engage

in that action, can assist in explaining why one cannot be a detached or disengaged observer of others, and why one should in fact expect some degree of bodily affect to be a part of social perception. One can see this in overt cases of emotional contagion (Jeannerod 2006, 147), and at the personal level in our tendency toward affective congruence with individuals and groups. At a funeral, for example, one's demeanor is transformed to fit that situation, and in listening to someone recount an event with dramatic flair one's facial expressions spontaneously match those of the story-teller or other listeners. Such responses may be more or less overt, and more or less recessive.

- 7. Conclusion** In either case they strikingly fit the profile of bodily affect as sketched above. Their low-level cognitive character matches our non-informational construal of affect. As Goldie (2000, 191) remarks, “[t]ypical cases of contagion neither involve understanding nor result in it,” since “the agent is not aware of the contagion” or “what the other’s emotion is about.” Emotional contagion, as a bodily affect, does something other than inform us about ourselves or others. It is no less intentional, world-directed for that reason. What it does is modulate our perceptually maintained interpersonal exchanges. The bodily affect involved in emotional contagion, even if recessive to a high degree, lends a peculiar phenomenal character to perceptual encounters with others. Just as with the adoption of moods more generally, the affective state is not neutral to one’s interactions or how one perceives the world. Waking up in a foul mood disposes one to a certain set of responses, and likewise when that mood is borrowed from others in a social setting.

We propose this account of affect as a way to enrich the enactive account of perception. Perception is not fully explained in terms of sensory-motor contingencies, even if such contingencies play an important role in a fully embodied account of perception. The lived body is not simply a sensory-motor mechanism, even if body-schematic processes play an essential role in placing the perceiving subject in a pragmatically oriented world. We suggest that a fuller enactive account of perception requires a phenomenology and a scientific explanation of bodily affect. Such an account adds depth and muscle to the enactive model and puts flesh on the skeleton of sensory-motor contingencies.

REFERENCES

- Bergson, H. (2001), *Time and Free Will*. F. L. Pogson (Trans.), Mineola, NY: Dover Publications.
- Buytendijk, J.F.J. (1974), *Prolegomena to an Anthropological Physiology*. A.I. Orr, et al. (Trans.), Pittsburgh: Duquesne University Press.
- Colombetti, G. (2007), "Enactive Appraisal." *Phenomenology and the Cognitive Sciences* 6, 527-546.
- Colombetti, G. (2011), "Varieties of Pre-Reflective Self-Awareness: Foreground and Background Bodily Feelings in Emotion Experience." *Inquiry* 54(3), 293-313.
- Colombetti, G. and E. Thompson (2008), "The Feeling Body: Toward an Enactive Approach to Emotion." In *Developmental Perspectives on Embodiment and Consciousness*, 45-68. W. F. Overton, U. Muller and J. L. Newman (Eds.), New York, NY: Taylor & Francis Group.
- Damasio, A. (1994), *Descartes' Error: Emotion, Reason, and the Human Brain*. New York: Avon Books.
- Danziger, S., J. Levav, L. Avnaim-Pesso (2011), "Extraneous Factors in Judicial Decisions." PNAS. First published online: www.pnas.org/cgi/doi/10.1073/pnas.
- Darwall, S. (1998), "Empathy, Sympathy, Care." *Philosophical Studies* 89, 261-282.
- Dreyfus, H. (2002), "Intelligence without Representation - Merleau-Ponty's Critique of Mental Representation." *Phenomenology and the Cognitive Sciences* 1, 367-383.
- Ellis, R. (2005), *Curious Emotions: Roots of Consciousness and Personality in Motivated Action*. Philadelphia: John Benjamins Publishing Company.
- Gallagher, S. (2005), *How the Body Shapes the Mind*. New York: Oxford University Press.
- Gallagher, S. (2008), "Direct Perception in the Intersubjective Context." *Consciousness and Cognition* 17, 535-543.
- Gallagher, S. (in press), "Embodiment and Phenomenal Qualities: An Enactive Interpretation." *Philosophical Topics*.
- Garfinkel, S., Minati, L. and Critchley, H. (2013), "Fear in Your Heart: Cardiac Modulation of Fear Perception and Fear Intensity", Poster presented at the British Neuroscience Association Festival of Neuroscience, 2013. (8 April 2013),
- Goldie, P. (2000), *The Emotions: A Philosophical Exploration*. Oxford: Oxford University Press.
- Heidegger, M. (1995), *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*. W. McNeill and N. Walker (Trans.), Bloomington: Indiana University Press.

- Husserl, E. (1991), *On the Phenomenology of the Consciousness of Internal Time (1893-1917)*, J. B. Brough (Trans.), Dordrecht: Kluwer Academic Publishers.
- Husserl, E. (2001a), *Analyses Concerning Passive and Active Synthesis: Lectures on Transcendental Logic*. A. Steinbock (Trans.), Boston: Kluwer Academic Publishers.
- Husserl, E. (2001b), *Logical Investigations*, Vol. 2. J. N. Findlay (Trans.), D. Moran (Ed.), London: Routledge.
- Husserl, E. (2004), *Wahrnehmung und Aufmerksamkeit: Texte aus dem Nachlass (1893-1912)*, T. Vongehr and R. Giuliani (Eds.), Dordrecht: Springer.
- Husserl, E. (2006), *Späte Texte über Zeitkonstitution (1929-1934): Die C-Manuskripte*. D. Lohmar (Ed.), Dordrecht: Springer.
- Hutto, D. (2006), "Unprincipled Engagements," in *Radical Enactivism: Intentionality, Phenomenology, Narrative* (13-38), R. Menary (Ed.), Philadelphia: John Benjamins Publishing Company.
- Hutto, D. and E. Myin (2013), *Radicalizing Enactivism: Basic Minds Without Content*. Cambridge, MA: MIT Press.
- Jeannerod, M. (2006), *Motor Cognition: What Actions Tell the Self*. Oxford: Oxford University Press.
- Johnson, M. (2007), *The Meaning of the Body*. Chicago: The University of Chicago Press.
- Maiese, M. (2011), *Embodiment, Emotion, and Cognition*. New York: Palgrave MacMillan.
- McGann, M. and H. De Jaegher (2009), "Self-Other Contingencies: Enacting Social Perception" *Phenomenology and the Cognitive Sciences* 8, 417-437.
- Meltzoff, A. N. and M. K. Moore (1983), "Newborn Infants Imitate Adult Facial Gestures." *Child Development* 54, 702-709.
- Merleau-Ponty, M. (2002), *Phenomenology of Perception*. New York: Routledge Classics.
- Noë, A. (2004), *Action in Perception*. Cambridge, MA: MIT Press.
- Noë, A. (2012), *Varieties of Presence*. Cambridge, MA: Harvard University Press.
- Panksepp, J. (1998), *Affective Neuroscience*. New York: Oxford University Press.
- Proffitt, D., M. Bhalla, R. Gossweiler, and J. Midgett (1995), "Perceiving Geographical Slant." *Psychonomic Bulletin & Review*.2(4), 409-428.
- Proffitt, D. R., Creem, S. H., and Zosh, W. (2001), "Seeing Mountains in Molehills: Geographical Slant Perception." *Psychological Science* 12, 418-423.
- Proffitt, D., J. Stefanucci, T. Banton, and W. Epstein (2003), "The Role of Effort in Perceiving Distance." *Psychological Science* 14(2), 106-112.
- Ratcliffe, M. (2008), *Feelings of Being: Psychiatry and the Sense of Reality*. Oxford: Oxford University Press.

- Schmid, H. B. (2011), "Feeling up to It: The Sense of Ability in the Phenomenology of Action." In *Self-Evaluation*, 215-236. A. KonzelmannZiv et al. (Eds.), Dordrecht: Springer.
- Sheets-Johnstone, M. (2006), "Essential Clarifications of 'Self-Affection' and Husserl's 'Sphere of Ownness.'" *Continental Philosophy Review* 39, 361-391.
- Sheets-Johnstone, M. (2009), "Animation: The Fundamental, Essential, and Properly Descriptive Concept." *Continental Philosophy Review* 42, 375-400.
- Slaby, J. (2008), "Affective Intentionality and the Feeling Body." *Phenomenology and the Cognitive Sciences* 7, 429-444.
- Thompson, E. (2007), *Mind in Life: Biology, Phenomenology, and the Sciences of Mind*. Cambridge, MA: Harvard University Press.
- Thompson, E. and M. Stapleton (2009), "Making Sense of Sense-Making: Reflections on Enactive and Extended Mind Theories." *Topoi* 28, 23-30.
- Varela, F. and N. Depraz (2005), "At the Source of Time: Valence and the Constitutional Dynamics of Affect." *Journal of Consciousness Studies* 12(8), 61-81.
- Varela, F., E. Thompson, and E. Rosch (1991), *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, MA: MIT Press.
- Young, I. (2005), *On Female Body Experience: "Throwing Like a Girl" and Other Essays*. Oxford: Oxford University Press.
- Zahavi, D. (2001), *Husserl and Transcendental Intersubjectivity: A Response to the Linguistic-Pragmatic Critique*. E. A. Behnke (Trans.), Ohio: Ohio University Press.
- Zahavi, D. (2011), "Empathy and Direct Social Perception: A Phenomenological Proposal." *Review of Philosophy and Psychology* 2, 541-558.