“On Direct Social Perception”

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**Abstract**:

Direct Social Perception (DSP) is the idea that we can non-inferentially perceive others’ mental states. In this paper, I argue that the standard way of framing DSP leaves the debate at an impasse. I suggest two alternative interpretations of the idea that we see others’ mental states: others’ mental states are represented in the content of our perception, and we have basic perceptual beliefs about others’ mental states. I argue that the latter interpretation of DSP is more promising and examine the kinds of mental states that plausibly could satisfy this version of DSP.

**On Direct Social Perception**

**1. Introduction**

Direct Social Perception (DSP) is the idea that we can perceive others’ mental states. This kind of perception is *direct* in the sense that it does not involve inferential mediation. When an infant cries, I see immediately that she is upset. When a dog suddenly starts barking, I see that my running partner is afraid of it. As my friend reaches toward the cake, I see that she wants a piece. According to DSP, I literally perceive the distress, fear, and desire. I do not first observe the behavior and then infer the mental state. Rather, I simply see the mental state in the behavior.

 The task both for proponents and opponents of DSP is to articulate the conditions under which direct perception of mental states is, or would be, possible and to delineate clearly directly perceiving from inferring mental states. Despite the numerous articles published defending and critiquing DSP, little progress has been made on these absolutely fundamental issues.[[1]](#footnote-1) In this paper, I explain why the standard way of framing DSP leaves the debate at an impasse. I suggest two alternative interpretations of the idea that we see others’ mental states: others’ mental states are represented in the content of our perception, and we have basic perceptual beliefs about others’ mental states. Both alternatives are preferable to the standard way of framing the debate. I argue that the basic perceptual belief interpretation is most promising and examine the kinds of mental states that plausibly could satisfy this version of DSP.

**2. Direct Social Perception**

Proponents of DSP argue that we can perceive others’ mental states with the same immediacy and directness that we perceive ordinary objects. Consider first the perception of ordinary objects in normal perceptual conditions. Currently I directly perceive a coffee cup on my desk. Seeing the coffee cup is immediate and direct. I do not have to infer from my sense data that there is a coffee cup on my desk. I simply see that there is a coffee cup there.

Of course, seeing involves unconscious computational processing: light reflects off the object, my visual system detects surfaces and edges and constructs a 3-D representation of the object. The claim that we directly perceive some objects does not deny that visual perception involves computational processing. Non-inferential is not the same as non-computational. To grasp the way in which seeing the coffee cup is immediate and non-inferential, contrast seeing the coffee cup on the desk with seeing a Rorschach inkblot. Both involve unconscious visual processing, but the latter additionally involves interpretative or inferential mediation that the former lacks. It is in this sense that seeing the coffee cup is immediate and direct.

DSP holds that we can see *mental states* with the same immediacy and directness that we see ordinary objects, like the coffee cup on my desk. We need not infer from the observation of a target’s behavior the existence of mental states. In some cases, we just see the mental states like I just see the coffee cup on my desk.[[2]](#footnote-2)

As I have described it, DSP is ambiguous with respect to the seeing/seeing-that distinction ([Dretske, 1969](#_ENREF_12)). Simple seeing, also called non-epistemic seeing, is possible for any creature with a functioning visual system. Seeing that, also called epistemic seeing, additionally requires conceptual resources. For example, an insect can see a tennis ball insofar as it can visually discriminate the tennis ball from other objects in the environment. However, the insect cannot see *that* the object is a tennis ball. To see *that* it is tennis ball requires that one have the concept TENNIS BALL, which of course the insect lacks. Often it is unclear whether DSP claims that we can see the target’s mental state or we can see *that* the target has a mental state, e.g., whether we see Joe’s anger, or we see *that* Joe is angry. Some DSP proponents explicitly defend the idea that we epistemically see mental states, e.g., McNeill ([2012b](#_ENREF_33)) and [Gallagher (2008a](#_ENREF_16)). Others are less explicit but could be interpreted as suggesting that we non-epistemically see mental states, e.g., [Zahavi (2011](#_ENREF_50)). Both views are controversial. We can, of course, see the behavioral expression of anger, but it is an open question whether we can see (epistemically or not) the anger itself.

The view that we can see mental states ought to be interpreted as claiming that we can epistemically see mental states. DSP is advanced as an alternative to mindreading, i.e., the view that we understand others’ behavior by attributing mental states to explain and predict their behavior ([De Jaegher, 2009](#_ENREF_10); [Gallagher, 2008a](#_ENREF_16)). Because challenging mindreading is the overarching goal of these theorists, I think DSP should be interpreted in terms of epistemic seeing. Non-epistemically seeing another’s mental state would not be a replacement for mindreading because it would not be an alternative explanation of how we *understand* others’ behavior.[[3]](#footnote-3) However, if we could epistemically see mental states, then we would not need to attribute mental states in order to understand others’ behavior. Epistemically seeing others’ mental states would challenge the necessity and importance of mindreading. Thus, DSP should be interpreted as claiming that we can epistemically see others’ mental states.[[4]](#footnote-4)

DSP is *not* behaviorism. The argument is not that all mental states are identical or reducible to behavior. DSP proponents argue that some mental states are observable. This is compatible with the idea that certain types of mental states may be entirely covert, while others are more or less observable. DSP also is not an instance of the familiar argument in philosophy of science that, after sufficient training, one can observe theoretical objects, such as electrons or quarks. DSP proponents need not deny that observation is theory laden in the sense that philosophers of science discuss or that we can come to observe theoretical objects or events.[[5]](#footnote-5) They deny that mental states are *theoretical* states, i.e., hidden, unobservable causal states. This metaphysical commitment about what mental states are distinguishes DSP from the more benign claim about theory-laden observation.

DSP is opposed to what I will call Inferentialism. According to Inferentialism, recognition of mental states involves observing behavior and inferring a mental state on the basis of the behavior. Inferentialism and DSP are asymmetrical in their scope. Whereas DSP allows that recognition of some mental states in some circumstances involves this two-step inferential process, Inferentialism holds recognition of mental states *always* involves this two-step inferential process.

**3. DSP vs. Inferentialism**

Mediating the debate between DSP and Inferentialism requires knowing what counts as an inference and how to tell the difference between inferential and non-inferential processing.[[6]](#footnote-6) Given how fundamental this issue is to the debate, it is surprising how little attention it receives. Very few theorists even attempt to answer the question of what an inference is. Most articles simply presuppose a fuzzy conception of inference without any recognition that the debate, as it is standardly framed, hinges on what an inference is and when it is required.

There is not enough space here to review *all* of the articles that fail to give an account of inference. Instead, I shall discuss two notable exceptions to this pattern and explain why even these articles do not adequately address this issue. The first exception is a paper by Dan Zahavi that offers a partial answer to the question, “What is an inference?” [Zahavi (2011](#_ENREF_50)) explains when, on his account, inferential mediation is *not* required. Zahavi argues that the fact that social understanding involves complex neural processing and multiple other cognitive processes (e.g., memory and perception) does not imply that social understanding requires inferential mediation. Perception of ordinary objects, like the coffee cup on my desk, involves complex neural processing and multiple cognitive processes. However, perceiving ordinary objects does not involve inference. In normal perceptual conditions, we directly see the objects in the world. Thus, Zahavi argues, complex neural processing and the simultaneous operation of multiple cognitive processes do not imply inferential mediation.

Some philosophers have reasoned that because social understanding depends on background context, social understanding is inferentially mediated ([de Vignemont & Singer, 2006](#_ENREF_11); [Jacob, 2011](#_ENREF_25)). That is, in order to understand a target’s mental state, we have to take into account and make assumptions about background context. This may suggest that understanding others’ mental states involves inferring a mental state from the background information, context cues, and current behavior. Zahavi argues that this is a mistake. DSP need not deny that knowledge of others’ mental states relies on contextual cues. He argues that it is perfectly consistent with DSP to acknowledge that social understanding is influenced and enhanced by background knowledge, context cues, and past experiences. Perception of ordinary objects depends on background knowledge and context cues, but, it is argued, perception of ordinary objects is not inferential. Thus, Zahavi claims, inference is *not* required in virtue of the fact that understanding a target’s mental state relies on background information and context cues ([Zahavi, 2011, pp. 547-548](#_ENREF_50)).

Social understanding involves multiple other cognitive processes, is neurally and computationally complex, and depends on background knowledge and contextual cues. All of this may be true, Zahavi argues, but none of it implies that social perception involves inference. These remarks about when an inference is not required suggest that Zahavi is employing a narrow conception of inference.

Zahavi’s remarks help to clarify some elements of DSP, specifically, conditions that do *not* necessitate inference. However, several fundamental issues remain unresolved. These remarks do not tell us what an inference is, when an inference *is* required, how exactly direct perception of mental states works, and how that differs from an inferential process. These issues are crucial for evaluating DSP, but despite the numerous articles published about DSP, there is almost no discussion of these fundamental issues.

Consider the second exception to this pattern, a recently published article by Albert Newen, Anna Welpinghus, and Georg Juckel ([forthcoming](#_ENREF_34)) that attempts to give a more thorough account of DSP. The paper defends the idea that we can directly perceive emotions. They argue that, like objects, emotions are individuated as patterns of characteristic features, and emotion recognition, like object recognition, simply involves recognizing particular patterns. For now, let us simply accept the stipulation about what emotions are and how they are recognized. Newen, et al. offer one of the clearest accounts of direct perception of emotions and explicitly contrast it with inference-based emotion recognition. The framework for distinguishing DSP from Inferentialism is exceptionally lucid and useful. Despite its virtues, this account suffers the same critical flaw as other accounts. It fails to distinguish DSP from Inferentialism because it does not offer an adequate account of inferential processing. I describe Newen, et al.’s account below.

Newen, et al. discuss three ways of recognizing an emotion. Though their account focuses on emotions, these distinctions apply to the recognition of all sorts of mental states.

1. Direct perception without top-down processes
2. Direct perception with top-down processes
3. Inference-based recognition

A top-down process, according to this account, is a specific process involving prefrontal activation of the brain, which necessarily is involved in the activation of a conceptual, complex cognitive process (p. 14). Note that on this definition of top-down process, an inference is a top-down process.

In order to evaluate DSP, we need to clarify what an inference is (beyond a top-down process) and explain how to tell the difference between inferential and non-inferential processing. The question in need of an answer is: What distinguishes A and B from C? Here is Newen, et al.’s account of how we directly perceive a mental state. On this account, the key to direct perception is to recognize a characteristic pattern of behavior by establishing a stable percept.

1. Bottom-up processes use sensory cues to form a sensory estimate.
2. Relevant sensory cues are integrated in a way that binds together non-redundant features from different senses, systematically weighting redundant information to exclude irrelevant features.
3. Relying on Bayesian principles to form a Maximum Likelihood Estimate, a stable percept is developed.
4. Establishing the Maximum Likelihood Estimate can be influenced and constrained by top down processes in the following ways:
	1. Sensory input may trigger relevant conceptual background information that directly influences the process of searching for the most probable perception.
	2. The percept can trigger a cognitive evaluation of the object that may influence the percept, modulating the focus of attention in that context (pp. 14-15).

Direct social perception without top-down processes involves steps 1-3, and direct social perception with top-down processes additionally involves step 4. (These steps are conceptual, not chronological.) In brief, the direct perception of a mental state (specifically, emotions in Newen, et al.’s account) is the product of sensory cue combination and integration, which can be influenced by two types of top-down processes. Situational and background information can (a) directly modify search processes and/or (b) modify the judgment based on the emotion percept ([Newen et al., forthcoming, pp. 14-15](#_ENREF_34)).

The framework for DSP is clear. The question is how to tell the difference between A, direct perception without top-down processes, B, direct perception with top-down processes, and C, inference-based emotion recognition. The difference between A and B is clear theoretically, but in practice top-down processes always are present. Outside of experimental contexts, it is unlikely that we ever perceive mental states without the influences described in 4a and 4b. Thus, in practice the distinction between A and B collapses.

The crucial question, however, is what distinguishes B from C. Newen, et al. offer three arguments against Inferentialism, the view that all emotion recognition is of type C. We can extrapolate from these arguments the ways in which Newen, et al. take C to differ from B. The three arguments are as follows (p. 16). First, inferential processes are too cognitively demanding for infants, so there must be a way of recognizing emotions that does not depend on inferential processing. Second, the claim that all emotion recognition is inferential is incompatible with the evidence that emotional evaluations can be unconscious and automatic. Third, non-inferential areas of the brain (i.e., non-prefrontal areas) are activated in emotion recognition, which is not what one would expect if emotion recognition were inferential.

These arguments imply that C, but not B, is cognitively demanding, consists in conscious, deliberative processing, and involves exclusively prefrontal areas of the brain. All three claims are dubious. First, in considering infants’ experience of others’ emotions, let us distinguish emotional *contagion* from emotion *recognition.* From birth infants are subject to emotional contagion ([Hatfield, Cacioppo, & Rapson, 1994](#_ENREF_23)). When one infant in a nursery cries, this causes other infants to cry as well. This is uncontroversial. Emotional contagion is distinct from emotion recognition, though. Emotion recognition requires at least some experience having and observing emotions. On Newen, et al.’s account, emotions are patterns of characteristic features, and to recognize an emotion one must be familiar with these patterns. *Very* young infants would not be familiar with such patterns, and thus would not be capable of recognizing emotions. Thus, though very young infants are subject to emotional contagion, they cannot yet recognize emotions.[[7]](#footnote-7)

It is an open empirical question when in normal human development children are able to recognize emotions in others. The capacity starts to emerge sometime in the first year but continues to develop throughout childhood and into adolescence ([Durand, Gallay, Seigneuric, Robichon, & Baudouin, 2007](#_ENREF_14)). At whatever age children develop the capacity to recognize particular emotions in others, the question is whether or not at *that* age they are capable of inferentially mediated cognition.

Let us assume that the empirical data is in, and we know when children develop the capacity to recognize particular emotions. We have two hypotheses about children’s emotion recognition: (1) Children non-inferentially recognize emotions. (2) Children inferentially recognize emotions. The difficulty in assessing the two hypotheses is that whether or not (2) is too demanding depends on what an inference is. If an inference is a conscious, deliberative act that involves explicit premises and conclusions, then (2) is implausible. However, limiting inference to conscious, deliberative acts is a gross caricature of Inferentialism. If we use a more liberal conception of inference, e.g., associations implemented by Bayesian principles of learning, then hypothesis (2) does not seem implausible. Newen, et al. never explain what an inference is, much less argue for a particular conception of inference. This is unfortunate because the argument hinges on what an inference is, when an inference is required, and how to tell the difference between inferential and non-inferential processing.

Newen, et al.’s second argument against Inferentialism is that some emotional evaluations can be unconscious and automatic, and this is incompatible with the claim that all emotion recognition is inferential. However, most proponents of Inferentialism hold that inferences can be subconscious and automatic ([Bohl & Gangopadhyay, 2013](#_ENREF_4); [Carruthers, 2011](#_ENREF_7); [Herschbach, 2008](#_ENREF_24); [Jacob, 2011](#_ENREF_25); [Lavelle, 2012](#_ENREF_30); [Spaulding, 2010](#_ENREF_44)).[[8]](#footnote-8) Thus, this argument is question begging. Pointing out that emotional evaluations are unconscious and automatic does not discriminate (B) direct perception with top-down processes from (C) inference-based emotion recognition. In order for this argument to be persuasive and not simply question begging, one would need to argue that inferences must be conscious, deliberative psychological processes. However, we are not given this argument and, as I will argue below, the prospects for such an argument are poor.

The third and final argument against Inferentialism appeals to neural activity during emotion perception. Newen, et al. cite fMRI data showing the activation of non-prefrontal areas in the perception of emotion, which allegedly suggests the absence of inferential processing. The only way in which these data are incompatible with Inferentialism is if one assumes that inferential processing involves *only* prefrontal activation. However, no Inferentialist would accept this restriction on what counts as inferential and non-inferential processing. So long as prefrontal areas *also* are activated, data showing activation in other areas of the brain are compatible with Inferentialism. In fact, according to Newen, et al.’s definition, all top-down processes involve prefrontal activation. Thus, these data cannot distinguish (B) direct perception of emotion involving top-down processes from (C) inference-based emotion recognition.

Newen, et al. offer the clearest and most comprehensive account of the differences between DSP and Inferentialism. However, as we have seen, even their account inadequately distinguishes the views. The main problem with all three of the arguments is that there is no agreed upon account of what an inference is, when an inference is required, and how to distinguish inferential processing from non-inferential processing.[[9]](#footnote-9) In fact, the problem is worse than that. Most theorists in this debate completely skirt the issue. They do not offer an account of inference as a basis for their arguments for or against DSP. Here is a basic (and likely incomplete) catalogue of various notions of inference, from the most liberal to the most conservative:

1. Sub-personal computation;
2. Psychological processing that employs Bayesian statistical principles;
3. Psychological processing that involves extra-sensory information;
4. Psychological processing that involves premises and conclusions;
5. Conscious, deliberative psychological processing that involves explicit premises and conclusions.

Inferentialists assume a liberal conception of inference – usually i, ii, or iii – whereas DSP proponents assume a conservative conception – typically iv or v. We cannot simply assert that one of theseis *the* correct notion inference. They are all inferences in one sense or another, and to stipulate that one is the appropriate conception would be question begging. Moreover, given that neither Inferentialists nor DSP proponents specify what *they* mean by inference, it is hard to tell what exactly each side is affirming and denying.[[10]](#footnote-10) Thus, the debate between Inferentialism and DSP is at an impasse. I suggest the best way forward is to pivot away from the thorny issue of what an inference is. In the next section, I propose two alternative ways of interpreting the claim that we can see others’ mental states.

**4. Content of Perception vs. Content of Perceptual Beliefs**

DSP’s claim that we see others’ mental states is ambiguous between the following two interpretations: the content of perception constitutively involves representations of others’ mental states, and the content of our perceptual beliefs constitutively involves representations of others’ mental states. Below I will explain each interpretation and argue that the latter option is the most promising route for proponents of DSP.

On the first interpretation, high-level properties such as emotions, intentions, beliefs, etc. are represented in the content of perception. I literally see mental states. That is, the content of my perception includes representations of mental states. When I observe your face contort into a particular configuration, the content of my perception includes various low-level properties (e.g., reflectance, shadows, and colors), but it also includes high-level properties (e.g., emotion, intentions, and beliefs).

Some theorists in the perceptual content debate maintain that *only* low-level properties are represented in perception, e.g., color, shape, illumination, and depth ([Clark, 2000](#_ENREF_8); [Dretske, 1997](#_ENREF_13); [Tye, 1997](#_ENREF_47)). On that view, higher-level properties, including semantic properties, kind properties and mental state properties, are represented in cognition, not perception. The idea is that the properties represented in perception are only those properties that result in a law-like way from retinal stimulation, like shape, color, illumination, etc. High-level properties, including mental states properties, are not produced in a law-like way from retinal stimulation, and thus they are not represented in perception ([Siegel, 2013](#_ENREF_40)).

The opposing view holds that high-level properties, perhaps including mental state properties, can be represented in perception ([Peacocke, 1992](#_ENREF_37); [Siegel, 2006](#_ENREF_39); [Siewert, 1998](#_ENREF_41)). One of the main arguments for this view appeals to the phenomenology of perceptual experience. The same stimulus can appear differently depending on one’s background knowledge. For example, when an expert art historian looks at a piece of art, she has a certain perceptual experience. When I look at the very same piece of art, I have a different perceptual experience. The very same stimulus produces different perceptual experiences, which allegedly suggests that the content of our perceptions are different. If the stimuli are the same but the phenomenological experience of the stimuli are different, according to this argument the best explanation is that the perception itself is different. The background information (semantic properties in my example, and mental state properties in the case of DSP) is represented in perception itself ([Siegel, 2013](#_ENREF_40)).

The phenomenal contrast argument that high-level properties are represented in perception is not the most promising route for DSP. The problem with this argument is that it fails to distinguish between causally relevant and constitutive properties of perception. The argument stipulates that the stimulus is the same and the phenomenological experience is different, but that leaves open whether the factors that are responsible for the difference in experience are causal or constitutive factors.

Consider again the art historian’s phenomenological experience of the artwork. The thought experiment stipulates that the stimulus is the same for both of us, but our phenomenological experiences differ. The phenomenological argument cannot determine whether the art historian’s knowledge of art partially *constitutes* her phenomenological experience of the artwork, or whether her knowledge of art *causally* affects her phenomenological experience of the artwork.

In the former case, high-level properties, such as *19th century impressionist,* are part of the content of her perception, and unlike me she quite literally sees these properties in the artwork. Her phenomenological experience is different from mine because certain high-level properties partially constitute her perception but not mine. In the latter case, we have different phenomenological experiences because our different backgrounds cause us to attend to the artwork differently. The art historian’s knowledge of art shapes her expectations, what she is interested in, and what she pays attention to. This background knowledge causes her to attend to the artwork differently and thus have a different phenomenological experience from me.

The problem with using the phenomenal contrast argument as a guide to the debate between DSP and Inferentialism is that it simply cannot tell whether the former or the latter is true. The thought experiment cannot distinguish constitutive from causal factors and thus cannot tell us whether or not the content of our perception includes representations of high-level properties.

Relatedly, the phenomenal contrast argument itself is unsuccessful because one could explain the phenomenological difference with a much less radical solution, i.e., simply in terms of differences in attention. The art historian’s background knowledge causes her to pay attention to particular aspects of the artwork, whereas I, the art novice, attend to other aspects of the artwork. We have different perceptual experiences simply because we are attending differently to the artwork.[[11]](#footnote-11) This sort of phenomenon is utterly common and uncontroversial. In other words, not only does the phenomenal contrast argument not imply that high-level properties are represented in perception; it is not even the best explanation of the phenomenon.[[12]](#footnote-12) These considerations are not decisive, of course, and in the future there may be better arguments for this conclusion. Until a better argument is offered, however, I suggest that proponents of DSP pursue a different route.[[13]](#footnote-13)

Proponents of DSP are not engaged with the content of perception literature, and thus they do not defend the claim that the high-level properties are represented in the content of perception. Though I encourage proponents of DSP to pursue this interpretation of DSP if it more accurately captures what they have in mind, I shall pursue the second interpretation here.

A second interpretation of DSP is that the content of our *perceptual beliefs* includes high-level properties, such as emotions, intentions, and beliefs. On this version of the view, when I observe your face contort into a particular configuration, on the basis of my perception I form a perceptual belief which has the following sort of content: “she is angry,” or “she intends to X,” or “she believes Y.” A perceptual belief may be immediate and non-inferential when it is a so-called *basic perceptual belief*. This version of DSP holds that beliefs about others’ mental states can be perceptual and non-inferential.

Basic beliefs are epistemologically basic in that they are non-inferentially justified. Basic beliefs contrast with non-basic beliefs, which require justification via inference from other beliefs. Perceptual beliefs, some argue, are a species of basic beliefs. Believing that you are seeing the color red is a basic perceptual belief. To be justified, this belief does not require an inference from other basic or non-basic beliefs. Perceptual beliefs about ordinary objects may be basic, e.g., the perceptual belief that there is a coffee cup on my desk may be a basic perceptual belief.

Perhaps, a DSP theorist could argue, the belief I acquire about your mental state is a basic perceptual belief. Consider the case of emotion. I observe your behavior and in doing so acquire the belief that you are angry. One could argue that this belief is a perceptual belief that is non-inferentially justified. My perceptual belief about your emotion requires no inference from my other beliefs about your behavior, the environment, background context, etc. I just see you as angry. This is an alternative way to interpret the claim that we perceive others’ mental states with the same immediacy and directness that we perceive ordinary things in the world.

The idea that beliefs about others’ mental states are basic perceptual beliefs differs from the arguments that DSP proponents offer. The idea involves a different sort of non-inferential perceptual access than the standard framing of DSP. It is, however, a promising way to defend the idea that we directly perceive others’ mental states. If we have basic perceptual beliefs about others’ mental states, then these beliefs are perceptual and produced automatically and non-inferentially. So far as I can tell, this interpretation captures the central commitments of DSP, i.e., perceptual, non-inferential, phenomenologically immediate access to others’ mental states.

The standard way of framing the debate about DSP hinges on an unspecified notion of inference, but there does not seem to be a principled, non-question-begging way to specify the correct notion of inference. Thus, the standard way of framing DSP leaves the debate at a stalemate. Above I suggested two alternative ways to interpret the idea that we directly perceive others’ mental states: first in terms of the content of perception and second in terms of basic perceptual beliefs. Though I encourage DSP theorists to pursue the content of perception interpretation if it best captures their view, this interpretation faces many hurdles. The basic perceptual belief interpretation of DSP that I recommend adequately captures the spirit of DSP and faces none of the problems of the previous two versions. Consequently, the basic perceptual belief interpretation is the most promising route for DSP. In the next section, I examine the nature of basic perceptual beliefs and determine which kinds of mental states plausibly could be the object of basic perceptual beliefs.

**5. Basic Perceptual Beliefs and Mental States**

What counts as a basic perceptual belief and do beliefs about mental states qualify as basic perceptual beliefs? First, let us get clear about basic perceptual beliefs. Jack Lyons ([2009](#_ENREF_31)) offers an account of basic perceptual beliefs that I shall use here. Little hangs on the selection of Lyons’ account over others. One can choose another account of basic perceptual belief if one prefers.

Lyons argues that what distinguishes basic beliefs from non-basic beliefs (i.e., inferential cognition) is the nature of the cognitive system that produces the beliefs For basic *perceptual* beliefs, the distinguishing factor is the nature of the perceptual system that produces the perceptual beliefs. Lyons argues that in order to be a perceptual system capable of producing basic perceptual beliefs, a cognitive system must satisfy the following four criteria:

1. Its lowest-level inputs are transductions across sense organs.
2. None of its inputs to any of its subsystems is under direct, voluntary control of the larger organism.[[14]](#footnote-14)
3. None of its inputs or inter-level representations are conscious beliefs.[[15]](#footnote-15)
4. It has a “normal” etiology, i.e., it results from the interplay of learning and innate constraints ([Lyons, 2009, p. 117](#_ENREF_31)). [[16]](#footnote-16)

A perceptual belief is basic if and only if it results from a cognitive system that satisfies the above four criteria. On this view, a belief about another’s mental state is a basic perceptual belief if and only if it is produced by a cognitive system that satisfies the above requirements. Could beliefs about others’ mental states be produced by such a system? It depends on which mental states we are talking about. I shall argue in the rest of this section that some mental states do satisfy these criteria, namely occurrent emotions and motor intentions, but most mental states do not.

**5.1 Emotions**

First I shall evaluate emotions, which all DSP theorists argue we can directly perceive ([Gallagher, 2008a](#_ENREF_16); [Gallese, 2001](#_ENREF_20); [Green, 2010](#_ENREF_22); [Krueger & Overgaard, 2012](#_ENREF_29); [McNeill, 2012b](#_ENREF_33); [Newen et al., forthcoming](#_ENREF_34); [Zahavi, 2011](#_ENREF_50)). Emotions are the main case study for DSP and one of the most promising candidates for direct perception. I shall argue in this subsection that we can directly perceive emotions, in the sense that we have basic perceptual beliefs about emotions, but this is the case only for *occurrent* emotions.

Suppose we accept Newen, et al.’s account of emotions, i.e., emotions are individuated as patterns of characteristic features, and emotion recognition simply involves recognizing particular patterns. Emotions can be occurrent or dispositional. Occurrent emotions include emotional episodes, which often are relatively short-lived affective responses, and moods. Occurrent emotions involve three constitutive components: a cognitive component (i.e., an appraisal or judgment), a bodily component (i.e., a characteristic physiological response), and a phenomenal component (i.e., a conscious experience of what it feels like to experience a particular emotion). Dispositional emotions are more varied. The category includes emotional dispositions (e.g., envy), temperaments (e.g., impatience), sentiments (e.g., love), and character traits (e.g., charity). Dispositional emotions need not evince any particular cognitive, bodily, or phenomenal component at any particular time. Rather, a dispositional emotion consists in the tendency to think, feel, and behave a certain way under certain conditions ([Colombetti & Roberts, forthcoming, pp. 10-13](#_ENREF_9)). There is, of course, significant overlap among these categories. Nevertheless, let us take these categories as basic starting points.

Can we have basic perceptual beliefs about occurrent or dispositional emotions? There is substantial overlap among these kinds categories. Beliefs about occurrent emotions are a promising candidate for DSP. Although the cognitive and phenomenal components are not perceptually accessible, the bodily component is. When people are angry, or disgusted, or afraid, their faces automatically contort in distinctive ways. For example, when you are disgusted, the bridge of your nose wrinkles, and your upper lip and cheeks rise. This facial expression differs from anger, which involves lowered brows, pressed lips, and bulging eyes. These occurrent emotions have distinctive bodily components. Furthermore, most people can recognize these occurrent emotions just by looking at static facial expressions ([Adolphs, Tranel, & Damasio, 2003](#_ENREF_1); [Wicker et al., 2003](#_ENREF_48)).[[17]](#footnote-17)

Face-based emotion recognition seems to satisfy the requirements for basic perceptual belief. The cognitive systems responsible for recognizing that a target is angry, disgusted, or afraid (the anterior cingulate cortex, insula, and amygdala) operate like primal systems in Lyons’ sense. That is, the lowest-level inputs are transductions across sense organs, the inputs are not under direct, voluntary control of the larger organism, none of its inputs or inter-level representations are beliefs, and it has a “normal” etiology. Finally, face-based emotion recognition does not take beliefs as input and base its output on those beliefs. The recognition of these occurrent emotions is automatic and does not depend on conscious beliefs about the target. Hence it is plausible that we directly perceive occurrent emotions in the sense that we have basic perceptual beliefs about occurrent emotions.

Unlike occurrent emotions, dispositional emotions are not plausible candidates for DSP. The belief that someone has a disposition is based on beliefs about how that person would think, feel, and behave in other situations. These beliefs are under the direct voluntary control of the subject. For example, the belief that Dan is jealous is based on beliefs about what Dan is doing now, the social context of his behavior, how he would behave in other situations, etc. I can deliberate on what Dan is doing now, the social context, and counterfactuals. Thus, the inputs (these beliefs) are under my direct, voluntary control and as such violate criterion b. As a result, beliefs about dispositional emotions do not count as basic perceptual beliefs. Whereas we come to believe that a target has an occurrent emotion simply on the basis of perceiving the target’s face, coming to the belief that a target has a dispositional emotion requires making a predictive or counterfactual inference about how that target would behave in other situations. Thus, we cannot have basic perceptual beliefs about dispositional emotions.

**5.2 Intentions**

Consider intentions next, which several proponents of DSP argue we can directly perceive ([Gallagher & Hutto, 2008](#_ENREF_18); [Gallese, 2007](#_ENREF_21); [Krueger & Overgaard, 2012](#_ENREF_29); [Pacherie, 2005](#_ENREF_35); [Scheler, 1913/2007](#_ENREF_38); [Zahavi, 2005](#_ENREF_49)). *Prima facie*, intentions are a good test case for DSP because intention, unlike many other mental states, is conceptually connected to action. When I form an intention to Φ, I commit myself to the action of Φ-ing, and assuming no failures of memory or unforeseen obstacles, I will Φ. Given the conceptual connection between intention and action, we may be able to directly perceive others’ intentions through perceiving their actions. In this subsection, I shall argue that this is true only for *motor* intentions.

Intentions come in three different varieties: future-directed intentions, present intentions, and motor intentions ([Bratman, 1987](#_ENREF_5); [Pacherie, 2006](#_ENREF_36)). Future-directed intentions are plans for future behavior. I have the future-directed intention to vote on Election Day, for example. This intention is subject to conscious, rational control and deliberation. Present intentions are plans for behavior now. Suppose I have the present intention to eat a piece of cake. Present intentions also are subject to conscious, rational control and deliberation. Motor intentions are motor plans that implement present intentions. My present intention to eat a piece of cake, for example, is implemented in part by motor intentions to *grab* the fork, *pull* the plate toward me, *pick up* the piece of cake, etc. Motor intentions are not subject to conscious, rational control and deliberation.[[18]](#footnote-18)

A belief about another’s intention is a basic perceptual belief if and only if it is produced by a cognitive system that satisfies the above requirements. Could beliefs about others’ intentions be produced by such a system? Beliefs about others’ future-directed intentions are ineligible. Your belief about my future-directed intention to vote on Election Day is not produced by a perceptual system with features a – d. There are multiple cognitive systems involved in producing a belief about a target’s future-directed intention, not all of which are perceptual systems. Moreover, the cognitive process that produces beliefs about future-directed intentions bases its output on other beliefs (e.g., that I often vote on Election Day, that I care about the outcome of this particular election, etc.), involves conscious deliberation, is flexible, and is under the direct, voluntary control of the cognitive agent. Thus, for several reasons, beliefs about others’ future-directed intentions are not basic perceptual beliefs.[[19]](#footnote-19)

Beliefs about others’ present intentions also are questionable candidates for basic perceptual beliefs. To be basic perceptual beliefs, the beliefs must be produced by a cognitive system whose operations are automatic, not subject to voluntary control, not consciously accessible, and do not take beliefs as input. This is not the case for the cognitive process that produces beliefs about others’ present intentions. Consider my present intention to eat a piece of cake. Although your belief about my present intention to work on this paper is perceptual insofar as it is based on perceiving me looking at a piece of cake, the belief does not satisfy Lyons’ other criteria for *basic* perceptual belief. You can wonder whether I am grabbing the cake to eat it, to serve it, to move it out of the way. You can consciously think about what present intention my behavior is serving. The judgment that the target has a certain present intention at a minimum is based on beliefs about what the target is doing and the social context. Coming to a belief about a target’s present intention is not a mandatory, automatic cognitive process in the way that seeing a facial expression as angry or disgusted is. The cognitive process that produces beliefs about others’ present intentions is consciously accessible, voluntary insofar as it is influenced by the agent’s motivation, takes beliefs as input and bases its output on those beliefs, which indicates that it does not satisfy Lyons’ criteria. Thus, beliefs about others’ present intentions are not basic perceptual beliefs. [[20]](#footnote-20)

Unlike future-directed and present intentions, motor intentions seem like a good candidate for DSP. Motor intentions are, for example, pushing, pulling, grabbing, opening, and closing. Unlike future-directed intentions, beliefs about motor intentions are perceptual. And unlike present intentions, beliefs about motor intentions satisfy Lyons’ criteria for *basic* perceptual belief. The cognitive system that produces perceptual beliefs about others’ motor intentions is the mirror neuron system, which is located in the premotor cortex and the posterior parietal cortex, regions involved in sensory guidance of movement and the production of planned movement cortex.[[21]](#footnote-21) This system takes as input transductions across sense organs. The operation of the mirror neuron system is informationally encapsulated, automatic, and thus not under direct, voluntary control of the agent. Moreover, the inputs and inter-level representations are sensorimotor representations, not consciously accessible beliefs. The mirror neuron system is a very good example of a perceptual primal system that operates non-inferentially. Thus, it is plausible that we have basic perceptual beliefs about others’ motor intentions, such as grabbing, pushing, pulling, etc.[[22]](#footnote-22)

We have basic perceptual beliefs about motor intentions, but beliefs about present or future-directed intentions additionally require beliefs about the current behavior and the role it serves in the behavioral sequence. For instance, you may have a basic perceptual belief that I am grabbing the piece of cake. However, this alone does not tell you whether I am grabbing to eat, serve, or move the cake out of my way. To come a belief about my present intention, one additionally needs beliefs about the current situation and my recent history, and these beliefs are subject to conscious, voluntary control. Your belief about my motor intention is automatic in the relevant sense, but coming to a belief about my present intention is subject to conscious deliberation and voluntary control. Thus, motor intentions are the only kind of intention that plausibly satisfies the criteria for basic perceptual belief.

**5.3 Beliefs**

I started this section by considering the most plausible candidates for DSP, and I end this section with what I take to be one of the least plausible candidates: beliefs. Not many DSP theorists argue that we can directly perceive others’ beliefs, but some do ([Gallagher & Hutto, 2008](#_ENREF_18)). It is worth discussing what it is about beliefs makes that them poor candidates for DSP.

As is well known, beliefs are not reliably connected to any particular behaviors. Suppose I believe that my colleague is mildly allergic to peanuts. This belief could lead me to avoid having my typical peanut butter sandwich if we are meeting for lunch. Or, if I forget that he is coming in to the office that day, I may eat the peanut butter sandwich despite his presence. Or, if I prefer not to talk to him, I may leave the jar of peanut butter on my desk as a repellant. The point is that my belief is compatible with many different behaviors, and to figuring out what I believe requires drawing inferences from my behavior, the environment, and my other mental states, such as desires and intentions. You cannot tell simply from observing my behavior what I believe.[[23]](#footnote-23)

This is problematic for the idea that we can directly perceive – have basic perceptual beliefs about – others’ beliefs. The cognitive system that produces beliefs about others’ beliefs is not perceptual, it clearly takes beliefs as input and bases its output on those beliefs, and its operations are subject to conscious, voluntary control. Thus, for many reasons we do not have basic perceptual beliefs about others’ beliefs.

**6. Conclusion**

In this paper I have argued that the standard way of framing the debate between Inferentialism and DSP leads to an impasse over what counts as inferential processing. As typically formulated, the debate hinges on an unspecified notion of inference, but there does not seem to be a principled, non-question-begging way to specify the correct notion of inference. In response to this impasse, I suggested two alternative ways to conceive of the idea that we directly perceive others’ mental states.

The first alternative conception holds that mental states are represented in the content of perception. This version of DSP faces several difficulties. In particular, the phenomenal contrast argument is weak and cannot distinguish constitutive from causal factors, and it is not even clear whether this version of DSP is incompatible with Inferentialism. However, I encourage proponents of DSP to pursue this version if it more accurately describes their conception of DSP. This version at least is more promising than the standard way of framing the discussion.

 The second alternative conception of DSP holds that we have basic perceptual beliefs about others’ mental states. This version of DSP is promising insofar as it satisfies the commitments of DSP and avoids the problems faced by the other two versions considered here. I argued that occurrent emotions and motor intentions are plausible candidates for basic perceptual belief, but dispositional emotions, future-directed intentions, present intentions, and beliefs are not.

 My survey of mental state types is not exhaustive, and there may be other mental state types that satisfy the constraints for basic perceptual beliefs. The goal of this paper is not to give a definitive answer to the question “Can we see mental states?” Rather, the goal is to shift the debate away from an unproductive line of argument and toward a more fruitful discussion. My consideration of emotions, intentions, and beliefs shows how the debate about DSP can progress if we reconceive of what it means to directly perceive mental states.

If DSP proponents accept my suggestion to reframe the debate in terms of basic perceptual beliefs, the contrast between DSP and theories of mindreading will change. As may be apparent, the claim that we have basic perceptual beliefs about *some* kinds of mental states is compatible with theories of mindreading. Theories of mindreading can accept the idea that we have basic perceptual beliefs about motor intentions and occurrent emotions, for example. On my proposed way of understanding the debate, the main disagreements between DSP and theories of mindreading are about *which* kinds of mental states are the subject of basic perceptual beliefs. The distinction between DSP and theories of mindreading is different and more nuanced than it is in the standard way of framing the debate, but the distinction still exists.

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1. For defenses of DSP, see [De Jaegher (2009](#_ENREF_10)); [Fuchs (2012](#_ENREF_15)); [Gallagher (2008a](#_ENREF_16), [2008b](#_ENREF_17)); [Gallagher and Hutto (2008](#_ENREF_18)); [Gallese (2007](#_ENREF_21)); [Kiverstein (2011](#_ENREF_27)); [Krueger (2013](#_ENREF_28)); [Krueger and Overgaard (2012](#_ENREF_29)); [McNeill (2012a](#_ENREF_32), [2012b](#_ENREF_33)); [Pacherie (2005](#_ENREF_35)); [Smith (2010](#_ENREF_42)); [Zahavi (2011](#_ENREF_50)). For critiques of DSP, see [Bohl and Gangopadhyay (2013](#_ENREF_4)); [de Vignemont and Singer (2006](#_ENREF_11)); [Herschbach (2008](#_ENREF_24)); [Jacob (2011](#_ENREF_25)); [Lavelle (2012](#_ENREF_30)); [Spaulding (forthcoming](#_ENREF_46)). [↑](#footnote-ref-1)
2. This does not imply that mental states are objects, or that we perceive mental states in *exactly* the same way that we perceive objects, or that we perceive all objects in the same way. Rather, the analogy is meant to highlight similarities between perception of objects and mental states. [↑](#footnote-ref-2)
3. Joulia [Smortchkova (in progress](#_ENREF_43)) offers an alternative perspective, arguing that we should interpret DSP in terms of non-epistemic seeing. On her view, non-epistemically seeing mental states is possible, but it is distinct from *attributing* mental states and thus is not an alternative to mindreading. [↑](#footnote-ref-3)
4. DSP is neutral with respect to primary and secondary epistemic seeing. That is, it need not take a stand on whether seeing that Joe is angry is based on non-epistemic seeing (primary epistemic seeing) or other epistemic seeing (secondary epistemic seeing). [↑](#footnote-ref-4)
5. Although, [Gallagher and Varga (2014, p. 193](#_ENREF_19)) deny that observation of mental states is theory laden with respect to Theory Theory or Simulation Theory. Thanks to an anonymous reviewer at this journal for bringing this to my attention. [↑](#footnote-ref-5)
6. Of course, DSP also hinges on difficult metaphysical questions about what mental states are. Those questions still are being debated. However, even if we all agree on the metaphysics of mental states, the epistemic issue of how we access others’ mental states remains open. [↑](#footnote-ref-6)
7. Relatedly, on this interpretation of DSP we directly *epistemically* see others’ mental states. Though infants certainly are subject to emotional contagion, this fact does not establish that infants *epistemically* see emotions (or other mental states). [↑](#footnote-ref-7)
8. Most philosophers, psychologists, or neuroscientists who posit implicit cognitive processes hold that inferences can be subconscious and automatic. The view that inferential processing can be subconscious and automatic is widespread in the cognitive sciences. [↑](#footnote-ref-8)
9. This lacuna is not unique to the DSP debate. As highlighted recently by Paul [Boghossian (2014](#_ENREF_3)) philosophy lacks an adequate, general account of inference. We do not have a unified concept of inference across fields of philosophy or even within particular fields. [↑](#footnote-ref-9)
10. Perhaps this is *too* even handed. Inferentialists often do specify what they mean by inference automatic ([Bohl & Gangopadhyay, 2013](#_ENREF_4); [Carruthers, 2011](#_ENREF_7); [Herschbach, 2008](#_ENREF_24); [Jacob, 2011](#_ENREF_25); [Lavelle, 2012](#_ENREF_30); [Spaulding, 2010](#_ENREF_44)). However, their claims have failed to persuade DSP proponents. [↑](#footnote-ref-10)
11. This second argument against the Phenomenal Contrast Argument will not be persuasive to those who regard attention as a constitutive part of perception. If one holds such an account of attention, then the perceptions of the art historian and novice will differ in virtue of the differences in attention. The first argument stands independently of the second argument, however. If one’s account of attention implies rejecting the second argument, one can still accept that the Phenomenal Contrast Argument cannot distinguish constitutive from causal factors. For various perspectives on attention and cognitive penetration, see [Zeimbekis and Raftopoulos (forthcoming](#_ENREF_51)). [↑](#footnote-ref-11)
12. See [Block (2014](#_ENREF_2)) for a discussion of the empirical literature relevant to the phenomenal contrast argument. [↑](#footnote-ref-12)
13. Moreover, as [Lavelle (2012](#_ENREF_30)) argues, the view that perception is theory-laden in the sense described here is compatible with the Theory Theory, an account of mindreading which holds that in order to understand others’ behavior we draw theoretical inferences about their behavior. Thus, even if better arguments are proposed for the idea that others’ mental states are represented in our perception, this route is not promising because it may not pose a genuine challenge to Inferentialism. [↑](#footnote-ref-13)
14. This criterion says that none of the inputs are under *direct* voluntary control of the organism. A subject has direct voluntary control over inputs when she can deliberate over whether the inputs are relevant to the belief forming process, and she lacks direct voluntary control when deliberation is impossible or, insofar as it is possible, always is irrelevant to the belief forming process. Voluntarily closing one’s eyes or diverting one’s attention does not count as *direct* voluntary control of the inputs. These behaviors would count as *indirect* voluntary control of the inputs. [↑](#footnote-ref-14)
15. I take a conscious belief to be an explicit, consciously accessible, propositional attitude that purports to represent the world accurately. [↑](#footnote-ref-15)
16. This criterion is important for Lyons’ purposes, but it does not matter for DSP. [↑](#footnote-ref-16)
17. It is controversial whether there are universal basic emotions. My comments on the facial expressions characteristic of disgust, anger, and fear intentionally are non-committal on the universality of so-called basic emotions. [↑](#footnote-ref-17)
18. See [Spaulding (forthcoming](#_ENREF_46)) for more on the distinction between these different kinds of intentions. Most theories of action posit some version of future-directed and present intentions. Making the case for motor intentions, Elisabeth Pacherie ([2006](#_ENREF_36)) argues that properties of motor intentions often are attributed to present intentions, which generates confusion about whether present intentions are under rational, voluntary control. Distinguishing between present and motor intentions alleviates this confusion. Some theorists are skeptical about the concept of motor intentions and argue that these merely are motor representations ([Butterfill & Sinigaglia, 2014](#_ENREF_6)). In the main text I will use the concept motor intentions, but if one wishes one can interpret this in terms of motor representations, a la [Jeannerod (1994](#_ENREF_26)) or [Butterfill and Sinigaglia (2014](#_ENREF_6)). I take this to be a merely terminological distinction. [↑](#footnote-ref-18)
19. One could argue that one we directly perceive a target’s future directed intention when a target verbally announces her intention to vote on Election Day. This surely is not what DSP have in mind when they claim that we can see others’ mental states. And even in this case, it seems that a better explanation is that we perceive the target say something (“I intend to do vote on Election Day”) rather than perceive the target’s intention itself. [↑](#footnote-ref-19)
20. One of the reviewers for this journal gives an interesting example that helps bring out the distinction I am making in this section. The reviewer gives an example of his seeing a black teenager on the bus as intending to mug him. Despite being conscious of implicit bias and not wanting to be prejudiced, he cannot help but see the black teenager as wanting to mug him. Thus, the belief that the teenager intends to mug him is not subject to voluntary control and does not take conscious beliefs as input. This suggests that he has basic perceptual beliefs about the black teenager’s present intention to mug him.

The belief that the black teenager is dangerous (or perhaps it simply is an association between black skin and danger) is automatic in the relevant sense and thus seems to satisfy the criteria for basic perceptual beliefs. However, it does not follow that the belief about the teenager’s *intention* is a basic perceptual belief. The belief that the teenager intends to mug him takes conscious beliefs as input and is under voluntary control, even if the underlying implicit racist belief (that black teenagers are dangerous) is not. The subject may not be able to shake the belief that the teenager is up to no good and dangerous, but on the basis of conscious deliberation about the teenager’s behavior he can change his mind about whether in fact the teenager intends to mug him. Thus, the present intention does not satisfy the requirements for basic perceptual belief. [↑](#footnote-ref-20)
21. The mirror neuron system does not operate in isolation, of course. It receives input from various cognitive systems (the visual system) and operates in conjunction with other systems and neural regions (e.g., the superior temporal sulcus) to produce beliefs about motor intentions. See [Spaulding (2013](#_ENREF_45)) for an overview of the philosophical and empirical significance of mirror neurons. [↑](#footnote-ref-21)
22. The examples I give in the paper clearly discriminate motor and present intentions, but this is not always so easy to do. Brian Scholl’s empirical work on the perception of chasing behavior finds that we cannot help but see certain movements as chasing or following, even when the stimuli is very sparse. This empirical work presents the following dilemma: Either chasing is a present intention, in which case it seems that we have basic perceptual beliefs about at least some present intentions, or chasing can be a motor intention, in which case these data confirm the claim that we directly perceive only motor intentions. I am inclined to regard the latter option as correct. Motor intentions (e.g., grabbing, pushing, and pulling) have sensorimotor content but they abstract away from the precise kinematic details of the behavior. It is plausible that chasing can be a motor intention in the way that grabbing, pushing, and pulling are. However, whichever option one chooses, this example highlights the difficulty of distinguishing perception of motor or present intentions. This is work for future discussions of DSP. Thanks to an anonymous reviewer at this journal for pushing me to discuss this point. [↑](#footnote-ref-22)
23. One could argue that one we directly perceive a target’s belief when a target verbally announces her belief. My response to this idea is the same as my response to a similar objection considered in footnote 19: This is not what DSP have in mind when they claim that we can see others’ mental states. Moreover, it is much more plausible to say that we perceive the target verbally express her belief rather than perceive the target’s belief itself. [↑](#footnote-ref-23)