

Perceiving the event of emotion

Rebecca Rowson

[forthcoming in *Ergo*]

I argue that the direct perception of emotion (DP) is best conceived in terms of event perception, rather than fact perception or object perception. On neither of these two traditional models can the perception of emotion be *as* direct as its counterpart in ordinary perception; the proponent of DP must either drop the 'direct' claim or embrace a part-whole model of emotion perception and its problems. But our best account of how we perceive events directly can be applied to emotion perception without any loss in directness. Not only this but there are good reasons to think that such a conception better respects both empirical evidence and the phenomenology of emotion perception.

Keywords: Emotions, Events, Other Minds, Perception, Expressions, Temporal Ontology

1. Introduction

Philosophers increasingly support the claim that we can directly perceive the emotions of others (DP).¹ For example:

[We] can literally perceive someone's anger in his face. (Stout 2010: 29)

It may be possible to know that James is angry by seeing that he is angry, and to see that he is angry by seeing his anger. (McNeill 2012b: 594)

when another is angry, I do not feel it (at least in the way I feel my own) – rather, I *see* it...the crucial point, once again, is simply put: in both cases the anger – whether my own or another's – is *directly* known. (Krueger 2014: 344)

From these remarks, we can say that DP captures an account of our knowledge of others' emotions in which token emotions are the direct objects of perceptual verbs. But saying that we can see sadness, hear anger, or touch anxiety, leaves open just what such perception is like and how it should be modelled.

A model for how we perceive emotions directly should be sensitive to at least three constraints. The first is that it should be non-inferential. Insofar as perception is involved in most of our inferential knowledge (we often need to see something before inferring about it),

¹ Proponents of DP include Gallagher (2008); García Rodríguez (2018, 2021); Glazer (2018); Green (2007, 2010); Hampshire (1972); Krueger & Overgaard (2012); McNeill (2012, 2019); Spaulding (2015); and Stout (2010).

to give an account of DP in terms of a combination of perception and inference would trivialise the perceptual nature of the account.²

The phenomenologists usually cited in support of DP emphasise the non-inferential nature of our knowledge of others' emotions. In reaction to a famous inferential account of other minds (Mill 1865: 190-191), many philosophers have accentuated the more direct nature of our awareness of how others feel. In *Zettel* Wittgenstein writes:

We do not see facial contortions and make inferences from them (like a doctor framing a diagnosis) to joy, grief, boredom. We describe a face immediately as sad, radiant, bored, even when we are unable to give any other description of the features. (1967: 225).

And later in *Remarks on the Philosophy of Psychology Volume II*:

In general I do not surmise fear in him – I see it. I do not feel that I am deducing the probable existence of something inside from something outside. (1980: 170).³

But while some take the non-inferential nature of emotion perception to be sufficient for the *direct* perception of emotion (Gallagher 2008: 537), there remains ambiguity over how strongly we should characterise the directness involved in DP. One reason we might want a stricter notion of directness is so that we can meet, head-on, objections to DP which trade on disanalogies between ordinary perception and emotion perception. For example, it has been argued that emotion perception is indirect since it involves a mediating condition that is not present in ordinary perception (Smith 2017, more on this later). The general point here is that directness is lost if there is a structural disanalogy between emotion perception and its counterpart in ordinary perception. By counterpart, I mean the type of perception that we are modelling our perception of emotion on. So, insofar as our perception of emotion is like our perception of facts, then it is indirect if we are in a *worse* position when it comes to our perception of facts about emotions than our perception of other kinds of facts. And insofar as our perception of emotion is modelled on our perception of ordinary objects, it is indirect if we are in a worse position when perceiving emotions than perceiving ordinary objects.⁴ Such an emphasis on the analogy with our ordinary cases of perception is at the heart of Duddington's influential defence of the view: '*our knowledge of other minds is as direct and immediate as our knowledge of physical things*' (1918: 147).⁵ We should start by thinking about what it is to directly perceive some kind of thing, *x*, and then consider whether we can perceive emotions in the same way.

I propose, then, a second constraint on DP is that emotion perception must be analogous to (as good as) its counterpart in ordinary perception. There are of course many other ways of distinguishing between direct and indirect perception and I will not take a stand on our broader theory herein. But notice that if DP complies with the second constraint, then whether it turns out to be a case of direct perception by one of these other standards will be parasitic on whether our ordinary cases of object, fact, or other perception do so. For example, if our perception of ordinary objects turns out to be indirect because it always involves an in-

² See McNeill (2012) on the distinction between a weak and strong perceptual hypothesis.

³ Similar observations are found in Husserl (1910-1911: 84), Duddington (1918: 164) and Scheler (2008: 410).

⁴ I understand what it is to be in a 'worse position' here in terms of metaphysical indirectness. One is in a worse position with respect to perceiving X if one is aware of X only through first being aware of Y, in contrast to being aware of X without the mediation of Y.

⁵ See also Scheler (2008: 178).

virtue-of relation (Jackson 1978), then so too for emotion perception. And if all perceptual experiences are indirect since they are mediated by sense-data (Price 1932), then so too for emotion perception. But if emotion perception is indirect in these ways, proponents of DP will be happy to concede this, since it cannot be that they want an account which tells us that our perception of emotion is *more* direct than our best-case scenario for perceiving ordinary objects, facts, etc. Despite the name, what matters for DP isn't all-out directness but preserving the analogy with our ordinary cases of perception.

The third and final constraint on how we model DP is that the perception of emotion must involve expressions. This also finds support in the phenomenological tradition:

Cheerfulness or sorrow, calmness or excitement, friendliness or rejection can lie in the tone of voice. (Stein 1964: 76)

For we certainly believe ourselves to be directly acquainted with another person's joy in his laughter, sorrow in his tears, with his shame in his blushing, with his entreaty in his outstretched hands, with the love in his look of affection. (Scheler 2008: 260)

We experience the emotions of others *in* their blushing, in their laughter, in the gnashing of their teeth, etc. Emotions are not perceived in isolation but in relation to various actions and bodily movements. An account of DP must be able to explain this.

In what follows I will review the two traditional accounts of our perception of emotion – one which models emotion perception on the perception of facts and the other which models it on the perception of ordinary objects – and determine whether DP can be successfully construed in either way.⁶ I argue that on neither traditional model can we meet all three constraints.

However, the proponent of DP can meet every constraint if they construe their claim in terms of the perception of something else. Objects and facts are not the only things we perceptually pick out in our environment – we also perceive events. I will show that not only is it possible to draw an account of emotion perception that mirrors our perception of events and meets each constraint, but that such an account captures an array of interesting features of our experience of others' emotions, some of which have been unappreciated on the traditional models.

The plan is as follows. In §2 I consider Dretske's account of perceiving emotions in terms of perceiving facts but argue that the above conditions cannot all be met. In §3 I consider the proposal that we perceive emotions as we do ordinary objects. I argue that the conditions can be met but only if we adopt a model of part-whole perception and its problems. In §4 I present my proposal – that we perceive emotions as we do events. I outline a metaphysics of events and what it is to perceive them in §4.1, apply this to the perception of emotion in §4.2 and discuss the role of expressions in §4.3. I consider two objections to the proposal in §5 and conclude in §6.

2. Perceiving facts about emotions

Dretske suggested that our perception of emotion is analogous to our perception of facts. Just as I can have perceptual knowledge *that the dog is wet*, I can have perceptual knowledge *that Patricia is jealous* (1973: 37). For Dretske, perceptual knowledge of facts can come in two forms.

⁶ These traditions do not exhaust the ways in which we can model a perceptual account. Recent alternatives can be found in García Rodríguez (2021) and Roelofs (2017).

If one sees that the dog is wet by seeing the dog itself, this is an instance of primary epistemic seeing. If one sees that the dog is wet by seeing something other than the dog (for instance, the dirty carpet), this is an instance of secondary epistemic seeing (Dretske 1969). We might suggest, then, that what it is to directly perceive emotions is to perceive facts about emotions by *primary* epistemic seeing. That is, to directly perceive Patricia's jealousy is to perceive that Patricia is jealous by perceiving Patricia and not someone or something else.

Cassam adopts Dretske's criteria for primary epistemic seeing and applies it to the perception of emotion (Cassam 2007: 163). *S* sees that Patricia is jealous if and only if:

- (i) Patricia is jealous
- (ii) *S* sees Patricia
- (iii) The conditions under which *S* sees Patricia are such that Patricia would not look the way she does unless she were jealous
- (iv) *S*, believing the conditions are as described in (iii), takes Patricia to be jealous

It is through seeing a person with a distinctive look, as specified in (iii), that we come to know that another is feeling a particular emotion, just as it is through seeing the distinctive look of a wet dog that we come to know that the dog is wet.

The above condition needs to be specified further given the following kind of case that Parrott describes (Parrott 2017: 1028-1029):

Angry Patrick Stewart

The magnificent actor Patrick Stewart has been cast to play Hamlet at the local theatre. During each performance, there is a time at which he looks angry. As it happens, before last Tuesday's performance, Stewart got some very bad news and actually is angry during the performance. Stewart both is *F* and looks *F*, but it is not the case that he looks *F* because he is *F*.

Here we have a case in which the distinctive look condition is satisfied, but we wouldn't want to suggest that it amounts to seeing that Patrick is angry, since it is merely accidental that Patrick is in fact angry. What is responsible for his overall look of anger, in this case, is his intention to look angry for the performance. As such, while the correlation between the look and the emotion is accidental, the overall look of anger is not.

This is not a problem that is special to the emotion case. We can raise the same worries about various non-emotional facts that we take ourselves to have perceptual knowledge of based on how things look. It's possible that we might see a moorhen which looks like a moorhen, but unbeknownst to us it only looks like a moorhen due to some external manipulation (someone noticed it didn't have a red beak like other moorhens and painted it to be distinguishable from a coot).

To avoid problems like this, we can adjust the above condition. It should not be just that Patricia wouldn't look the way she does unless she were jealous, but also that she looks the way she does in virtue of her jealousy (Parrott 2017: 1031). Likewise, it should not be just that the moorhen wouldn't look the way it does unless it were a moorhen, but that it looks the way it does in virtue of being one.

But according to Parrott, this qualification highlights a difference between emotional fact perception and ordinary fact perception (2017: 1034-1041). Ordinary fact perception works because, absent any external intervention, things have the look they have in virtue of being the way that they are. Apples, tables, chairs, moorhens, and coots look the way they do in virtue of being what they are. That is, being a moorhen determines its basic observational properties – that it has a particular size, shape and colour.

But while a moorhen has these features in virtue of being a moorhen, the same is not true for emotions, even absent external intervention.

Consider anger. Being angry does not appear to determine the observational properties exemplified by an individual. Rather, it seems that someone can be angry but not manifest any observable behavioural response. Moreover, an angry person can typically alter her behavioural response on different occasions, and may look very different each time she is angry. It is not as if there is a specific set of basic observational properties that Patrick Stewart must manifest on the day he happens to be angry. But since Patrick Stewart's overall look supervenes on these properties, it is difficult to understand precisely how the overall look Patrick Stewart manifests to a spectator on a particular occasion is manifested *in virtue* of his underlying mental state, rather than in virtue of the behaviour he intentionally displays. (Parrott 2017: 1041)

There is, so the argument goes, an ontological gap between an agent's emotion and how they look, given that these two things are always mediated by their agency. As such, even in cases in which the agent feels as they appear to, what they feel cannot fully determine their overall look. This is a compelling objection to the model of DP which trades on an analogy between emotional fact perception and ordinary fact perception.

However, the objection assumes a picture of mental states which we might resist. While it is right to point out that a person's anger can manifest in a variety of outward behaviours (not to mention cross-cultural differences in emotional expression (Barrett et al. 2019; Jack et al. 2012)), it assumes that when we have two different looks of anger, these are two different looks for the very same thing. But while one's anger one day is a mental phenomenon of the same kind as one's anger another day, each token instance may well vary in a number of respects. Aside from the fact that we are learning that instances of the same emotion category look different at the neurological level (Barrett 2017), the intentional objects of our states of anger (what we are angry about) tend to change and develop; I am angry about a reckless driver one day and about the milk in the fridge the next. So, the variation at the level of expression need not count against the fact that it occurs in virtue of the underlying state, just so long as we acknowledge the variation in the underlying state to match.

Furthermore, it is unclear how we might construe the claim that intentions to behave angrily determine one's look of anger rather than anger itself. The Patrick Stewart example asks us to imagine two discrete mental states, anger and an intention to behave angrily, the latter replacing the former as that which determines the observational properties of Stewart. But why think these states are discrete? Instead, we can think of Stewart's anger as changed. It now involves an intentional component. This kind of picture better reflects the way an actor like Stewart might think about their performance. Actors are told to *channel* their emotions. Insofar as they do this successfully, then it is still the emotion at work, not merely the intention to act.

But even if we can rescue the claim that we have perceptual knowledge of others' emotions by seeing their distinctive looks, there is a further disanalogy between ordinary fact perception and perceiving that someone is sad. When it comes to ordinary fact perception, one can perceive the fact in two different ways. For Dretske, to perceive that the traffic light is green, one needs to perceive the traffic light under certain conditions – for example, that the traffic light wouldn't have looked the way it does unless it were green. As has been pointed out, this leaves open whether one perceives that the traffic light is green on the basis of perceiving its greenness or on the basis of something else (McNeill 2012: 579). For example, someone who is colourblind might see that the traffic light is green by seeing its brightness.

Since the traffic light wouldn't look this way to them unless it were green, the conditions for fact seeing are met.

McNeill uses this distinction to suggest that the latter kind of seeing – where we see that the light is green without seeing greenness – involves inference. It involves the relevant belief that the light wouldn't look bright unless it were green. This is problematic for the proponent of DP, since at the very least they want an account that avoids inference.

Another way to look at it is to notice that we cannot draw the same distinction when it comes to perceiving that someone is sad. In ordinary fact perception, the traffic light case teaches us that it's possible to see that A is F by seeing F itself or by seeing G. When we see that someone is sad by seeing their expression of sadness, we only ever gain perceptual knowledge that A is F by seeing G. While this need not mean we don't perceive that someone is sad on this basis, it distinguishes this kind of knowledge from ordinary cases in which seeing F itself is at least possible for most people.

3. Perceiving emotions as objects

Several people have thought that our perception of emotion is analogous not to our perception of facts, but to our perception of ordinary objects. On this view, emotions sit alongside the likes of tables and chairs as things we can literally clap our eyes on (Glazer 2018; Green 2007; Krueger & Overgaard 2012; McNeill 2019). If this is right, then all we need to do to explain what it takes to perceive an emotion is to adopt our favourite account of what it is to perceive an ordinary object. If we perceive objects which play a causal role in our perceptual experiences of them (Grice & White 1961), we perceive anger if it plays a causal role in our perceptual experience of anger. Or insofar as we perceive objects if we can perceptually differentiate them from their background environment (Dretske 1969), we perceive anger if we can perceptually differentiate it from its environment.

In §1 I discussed the following two conditions on an account of DP. One is that our direct perception of emotions should mirror the direct perception of whatever we are modelling it on. In this case, then, directly perceiving emotions should be analogous to directly perceiving objects. The second condition was that we propose an account of how we perceive emotions by perceiving expressions.

But these two principles are in tension. While the fact that expressions mediate our awareness need not mean we have no perceptual access to emotions, such access is at least disanalogous to our perceptual access to ordinary objects for this reason. Our perception of ordinary objects in our environment does not involve anything like an expression standing between us and the object (Gomes 2019: 163-164; McNeill 2019: 175-176; Smith 2017: 134). It is the expression which causes our perceptual experience, not the emotion itself, or it is the expression which we differentiate from its background, which leads us to perceive the emotion. Therefore, the proponent of DP cannot have it both ways – they cannot give an account of perceiving emotions in terms of perceiving expressions and maintain that our perception of emotion is just like our perception of objects.

But defenders of DP have a way out of this puzzle. They can maintain that our perception of ordinary objects does involve an intermediary akin to expression. We perceive objects by perceiving parts of those objects. We might see the tree by seeing part of the surface of its trunk and we see only the facing surface of the book in front of us, not its back or underside. These parts are intermediaries that enable our direct perception of wholes. If expressions are like these, then we can maintain that our perception of emotion via the perception of expression is just like our perception of wholes via our perception of parts.

Those who appeal to part-whole perception in defence of DP include Glazer (2017, 2018); Green (2007, 2010); Hampshire (1972); Krueger & Overgaard (2012); and Tormey (1971).

It is not unprecedented to consider expressions to be parts of emotions. Work in the philosophy and psychology of emotion treats emotions as composites of several characteristic components. Scherer, for example, understands emotions as episodes involving five key elements: a cognitive component (the agent's appraisal of some object or event), the neurophysiological component (the agent's bodily changes), the motivational component (the action tendencies associated with the emotion), the expressive component (vocal and facial expressions), and the feeling component (the subjective experience of the emotional agent) (Scherer 2005). The fact that those working on emotions already carve them up into distinct parts serves as fuel for the part-whole account of emotion perception.

However, the part-whole proposal faces problems. Firstly, it cannot meet the demand that emotions explain their expressions (Parrott 2017: 1049). When explaining our expressive behaviour, like our beaming grin or the way we slammed the door, we appeal to our emotions. We grin because we are happy and slam the door because we are angry. An account of the relationship between emotions and expressions should do justice to this phenomenon. This is a problem for the part-whole proposal because we don't typically invoke wholes when explaining the behaviour of their parts. If someone asks, 'why is your hand in the air?' and you answer, 'because it's attached to my body', something would be amiss. Emotions are explanatorily rich when it comes to expressions; they explain why some expression is appropriate, rather than another. But referencing the compositional structure of a human body doesn't tell us why it's appropriate to sometimes raise one's hand, wave it around, pick things up with it, and so on.

Moreover, it is just not clear that the usual mereological notion invoked in our part-whole perception of objects translates to expressions and emotions. We usually understand the part-whole relation relevant to part-whole perception in terms of spatial location (Hornsby 1988). Something is a part of y if it takes up some region or volume of space within y . Tree trunks take up some portion of space within trees and the facing surfaces of books take up some region of space within the book. But it is not obviously true of emotion complexes, like the picture presented above by Scherer, that their components are spatially contained within them. That is, we don't tend to think of the slamming of the door as taking up a region of space within the agent's anger. So not only can we not explain how emotions cause expressions, but we also leave open-ended what emotion perception is like on this picture. The part-whole perception of emotion is not like the ordinary cases of part-whole perception of objects, since we cannot understand it in terms of how expressions take up space. The construal of DP in terms of object perception is at best incomplete.

In what follows, I abandon the attempts to account for DP on the models of fact perception and object perception. Instead, I present an account of directly perceiving emotions on the model of event perception. In doing so, I invoke an alternative way of characterising a part-whole relationship – one which doesn't fall foul of the explanatory requirement.

4. Perceiving the event of emotion

Given the problems with construing the direct perception of emotion in terms of the perception of facts or objects, we may be inclined to think about other ways to construe what it is to directly perceive an emotion. Luckily for us, facts and objects are not the only things we experience perceptually. We also perceive events.⁷ Insofar as the contents of perception

⁷ Not everybody thinks we perceive events. See Lewis (1986).

include particulars, events, alongside objects and property instances, are considered to be exemplars of the kinds of particulars our perceptual systems discriminate (Burge 2010: 84; Schellenberg 2016: 48-49).

With some notable exceptions (Crowther 2014; Dretske 1969; Soteriou 2010), a good proportion of the work which deals exclusively with event perception comes from the literature on auditory perception. Among those that take the objects of our hearings to be sounds (rather than the sources of sounds), there are those that adopt an event view of sounds (Casati & Dokic 1994, 2009; O'Callaghan 2009). For them, sounds are neither the activity producing the sound nor the sound wave that inheres in the object, but rather sounds are 'events in which a moving object disturbs a surrounding medium and sets it moving' (O'Callaghan 2009: 28). Given this, for proponents of the event view of sounds, auditory perception is in all cases an instance of event perception.

In addition, empirical research in psychology supports the idea that perceptual systems pick out events as well as objects in our environment (Radvansky & Zacks 2011; Zacks et al. 2007; Zacks & Tversky 2001). In what follows I will present a more detailed characterisation of what events are and what our direct perception of them is like. I will then explain why the perception of emotion fits naturally within this picture.

4.1. Perceiving events by perceiving activities

To think about what our perception of events is like, we need an understanding of what kinds of things events are. I will focus on events involving agents: someone washing a car; someone writing a book; someone eating a sandwich; etc.

Events are an ontological kind, the discussion of which is often centred around how they are different to another ontological kind: processes. Processes are things like someone washing, someone writing, and someone eating. We usually refer to processes like these which are undertaken by agents as 'activities' and I will use 'activity' to broadly refer to any process going forward (Mourelatos 1978; Vendler 1957). Events and activities are temporal notions, they exemplify different ways of moving through time. A fruitful way of characterising the distinction between events like *Tony writing a book* and activities like *Tony writing* is by analogy with certain spatial notions (Mourelatos 1978; Taylor 1977).⁸ In particular, the distinction between spatial particulars and spatial stuff.

In Book 2 of *Metaphysics*, Aristotle understands individual substances in terms of their form and their matter. The form of an individual substance tells us what kind of thing it is, and the matter tells us what it is made of. This latter notion of matter roughly corresponds to the ontological category that has since been called 'stuff' (Chappell 1971; Quine 1960; Strawson 1959). Examples of stuff are things like bronze, gold, paper, water, smoke, and fur. Stuffs such as these are contrasted with various particulars, like a cat, a person, a tree, and a teapot. One general rule of thumb in telling apart spatial stuffs from spatial particulars is that the nouns associated with stuffs are mass but not count quantifiable and the nouns associated with particulars are count but not mass quantifiable (Burge 1975; Cartwright 1970; Chappell 1971).⁹ We cannot have one or two bronzes or several smokes, but we can have more bronze and less smoke. We can have three cats and fewer teapots, but we cannot have more cat and

⁸ Another classical way to go is to argue that activities go on in a homogeneous way while accomplishments do not (Vendler 1957: 146). Someone's ϕ -ing is homogeneous if by predicating that one is ϕ -ing over some given time, one entails that one has ϕ -ed during any subinterval of that time. The problem with this characterisation of the distinction is that a number of archetypal activities are non-homogeneous (Dowty 1982; Taylor 1977).

⁹ See Chappell (1971: 62) for exceptions.

less teapot. Paper might be more ambiguous than these cases. We can have more or less paper, if we understand paper as a material, but we can also have two or three papers, if we understand papers as particular essays or newspapers.

Stuff, as Aristotle understood for matter, is intimately related to particulars. Stuff *fills* or *makes up* or *composes* particulars. Water is what a lake is filled with, gold is what the statue is made of, and a piece of paper is composed of the material paper. In fact, whenever we have some spatial stuff, it fills out some space until we reach the boundary at which point there is no more of that stuff. So, each amount of spatial stuff fills out a corresponding spatial particular. Stuffs are therefore distinct from proper parts of objects since many of the stuffs filling objects fill them entirely (a clay bowl is made entirely of clay). In contrast, proper parts cannot constitute the entirety of a whole – they are in some sense smaller than the whole.

The spatial particulars that the stuff composes are not all built the same. There are some that we might call mere lumps of stuff – like a lump of gold or a piece of paper.¹⁰ In general, the boundaries of lumps of gold and pieces of paper are promiscuous. We can cut off any size of the stuff, the paper, and render a particular piece of paper. It could have jagged edges, be of a non-standardised size, and still qualify as a piece of paper. But paper aeroplanes are not like this. A paper aeroplane shares with a piece of paper that it is made of paper, but it is not the case that we can cut a paper aeroplane in half and still have something that qualifies as a paper aeroplane. The stuff that makes up a paper aeroplane needs to be arranged in a particular way such that it satisfies the completeness conditions placed on things that count as paper aeroplanes (on completeness conditions, see Crowther (2011)). In this case, the completeness conditions may relate to the way in which the paper is folded and that it serves the function of moving through the air.

So far, we have three kinds of things in our spatial ontology. Spatial stuff, which fills out the space of two kinds of particular. Particulars that are just lumps of such stuff and particulars that have completeness conditions attached to their boundaries.

It is argued that the difference between events and activities is like the difference between spatial particulars and spatial stuffs. Events are temporal particulars and activities are temporal stuffs. And as with our spatial notions, the relationship between events and activities is intimate. For every event, there is some activity that fills it out in time – that composes it. For every walk to the shops, there is walking composing it. For every eating of a five-course meal, there is eating making it up. We can say that whenever we participate in an event, these events are not empty. There is something that we *do* that fills them out. In the spatial realm, this mirrors how most of the particulars around us have to be made of stuff.

As with particulars in the spatial realm, we find events of two kinds. We have events which temporally correspond to mere lumps of stuff. If one goes for a run and the run is cut off at some random point, there is a corresponding event of that run. This run could have ended sometime before or after it did, and yet it would still be an event of the same type: a run. These kinds of events are merely chunks of time – chunks of activity. We can call these chunks of activity simple events. The other kind of event is less flexible and has specific completeness conditions attached to it. These completeness conditions impact the temporal nature of the event (Crowther 2011: 24). Just like being an A4 piece of paper places conditions on where some material begins and ends in space, the completeness conditions of an event restrict where it begins and ends in time. With the running of a marathon, the end of the event must coincide with the completion of 42 kilometres. If it falls short of this, it fails to be a running of a marathon. We can call these complex events.

¹⁰ Some prefer the term 'parcel' to 'lump' (Chappell 1971; Locke 1689) while others prefer 'quantity' (Cartwright 1970).

There is not a huge amount of work telling us what the perception of events *is like*. I follow a well-developed recent proposal in which directly perceiving events consists of the perception of activity (Crowther 2014). This follows the fact that when we perceive particulars in the spatial realm, we perceive stuff. Assuming a causal theory of perception, what it is to directly perceive a cat is to perceive the stuff the cat is made of, and it is the cat that is responsible for this visual experience. It is sufficient that I see some fur and that the cat is responsible for this experience for me to have directly perceived the cat. Our perception of things requires our perception of the stuff that makes them up – we usually don't perceive empty spaces.

Likewise, our perception of events is not empty – we perceive some of what fills them out in time. We perceive them *unfolding* or *in progress* (Crowther 2014). As we have seen, what fills out events in time is activity. So, what it takes to directly perceive someone running a marathon is to perceive them running; to directly perceive someone writing a book is to perceive them writing; and to directly perceive a group of people playing a football match is to perceive them playing football. Again, if we assume a causal theory, we can add in a causal condition. This picture of event perception is common to both simple and complex events.

Directly perceiving an event doesn't require that we perceive all of the event. We need not perceive the entire duration of activity that makes up an event, just as we need not perceive the insides of a cat to perceive the cat. This seems intuitively right of event perception. We can say that we saw the football match even though we checked our phones intermittently throughout and we can watch someone running a marathon even though we only saw them zoom past for a few seconds. And the alternative is implausible – a condition which says we need to perceive the entire duration of an event to perceive it directly would entail that we can be watching a football match unfold but only have directly perceived it once it ends.

Empirical psychology supports this picture of perceiving events by perceiving activities. Research in this area tells us that observers partition the continuous activity around them into discrete event segments and that this segmentation occurs as the activity happens (Zacks et al. 2007; Zacks & Tversky 2001). The empirical accounts share with our philosophical one that the content of perception not only includes events, but also understands events as bounded chunks of activity.

Four further features of event-perception as it's characterised in psychology are useful to pick out. Firstly, event perception is an instance of perceptual constancy. We perceive relatively stable and robust events despite interruptions, variations in the activity composing them, and changes within the observer. Our perceptual systems are said to impose stable models – 'what event is happening now' – which organise our experience of various activities before us (Zacks et al. 2007). When we watch someone playing a football match, we watch their activity in flux. They may be kicking the ball, drinking water, or standing at the side of the pitch, but as we perceive this activity, our perceptual systems also represent it as a stable playing of a football match.

Secondly, the way we perceptually carve out event boundaries relies not just on sensory input, but also on top-down processes like one's prior knowledge and previously encountered events. As a result, it will vary across individuals – 'for example, baseball fans can anticipate events that might come as a surprise to baseball novices (e.g., all the players running off the field at the end of an inning) and this is likely to influence event segmentation' (Zacks et al. 2007: 284).

Thirdly, our perception of events is very often multimodal. Our perceptual segmentation of events can be based on sensory information from not just visual or auditory or other sense modalities, but some combination of these (Zacks et al. 2007: 276).

Finally, our perception of event boundaries can be fuzzy (Radvansky & Zacks 2011). While in some cases we perceive events beginning at a very precise point – like, say, when a whistle signifies the start of a football match, in others it is not so clear at what point we go from perceiving one event to another. When watching a triathlete transition from swimming to cycling, our perceptual system may not represent a clear point at which we move from the event of them completing the swimming segment to the event of them completing the cycling segment – is it when they get out of the water or get onto the bike? This example brings out another feature of our perception of events – we can perceive events within events. We might segment the activities of swimming, cycling, and running into discrete events, but also perceive them as various activities composing the event of the triathlon.

In sum, we perceive events directly by perceiving the activity that composes them – we perceive events *in progress*. From our philosophical account, we learn that this need not require us to perceive the entire duration of an event (or *all* of its activity) and that some of the events we perceive are simple and some are complex meaning that they have completeness conditions governing their temporal boundaries. Empirical research supports this picture and tells us several interesting features of event perception which will be useful to us in the next section, in determining how apt this picture is when applied to emotion perception.

4.2. Events of emotion and emotional activities

In this section, I will argue that the way the direct perception of events is characterised applies naturally to the perception of emotion. As we saw in the previous section, whenever there is some activity that begins and ends, a corresponding event is composed. So too for the activities we engage in while in the grips of an emotional episode. Whenever we undergo an episode of emotion there is emotional activity which fills it out in time. One's frustration after realising one left the keys at home involves activity (what one is doing during this period), and the boundaries of this activity determine a corresponding particular – the event of frustration. So, we can present a picture in which we have events of emotion, filled with emotional activity. With respect to our spatial analogy, emotional activity is the stuff of emotional events.

Are events of emotion simple or complex? That is, are their temporal boundaries promiscuous or governed by completeness conditions? For at least some episodes of emotion, their temporal shape matters. Surprise is like this – it is said to have a distinct temporal profile. As well as being typically short-lived, it begins with the detection of the unexpected, followed by some cognitive interruption, a stage of sense-making, and concludes with the agent cognitively mastering the situation (Noordewier et al. 2016). Grief, too, is understood by some as ranging over a series of typical stages (Goldie 2011). On these accounts of surprise and grief, the emotions unfold in a characteristic way and, importantly, towards a particular point. Just like if one's running a marathon stops short of the 42 kilometres, it isn't a complete marathon, if one's grief stops after the phase of denial, one has not fully grieved the loss.

Falling in love is a particularly good example of an emotion whose endpoint is built into the nature of the emotion itself. To fall in love is governed by the achievement of something. Anything short of eventually being in love will render a mere simple event (one's almost falling in love).

Furthermore, nearly all emotions are subject to conditions of fittingness. When philosophers of emotion discuss what distinguishes, say, anger and sadness, shame and embarrassment, they often point to certain rules governing what makes each emotional response appropriate. Fear, for example, is fitting if we appraise something to be dangerous.

Desire is fitting if we appraise something as desirable. As well as specifying the appropriate appraisals for each emotion, these rules also specify *when* it is appropriate to have a particular emotion. It is appropriate for fear to begin once the appraisal of dangerousness has been made and to end when the perceived threat is no longer present.

We also distinguish emotions functionally. What unifies fear responses is that they have evolved with the function of directing agents towards danger; what unifies guilt responses, arguably, is that they have the function of making the agent aware of their wrongdoing. However, a problem with adopting a functional characterisation of the completeness conditions of emotions is that it does not obviously explain how the emotional event is *temporally* governed. That is, the function of an emotion needn't determine when it begins and ends. But similarly, the rules governing certain spatial particulars are functionally drawn and do not bear on where the particular begins and ends in space. A collection of watches may have entirely different shapes and mechanisms that enable them to tell the time – whether smart watches, analogical or digital (Deonna & Teroni 2012: 22). But so long as they perform this function, they satisfy the rules that determine what it is to be a watch. Insofar as the function of spatial particulars can explain why they are particulars and not mere lumps of stuff, the function of emotions can indicate emotions are complex rather than simple events.

So far in this section, I have applied the characterisation of events as temporal particulars filled out by activities to emotions. We have events of emotion composed of emotional activity. Given what has been said about the various conditions placed on things which count as emotions of particular kinds, these events of emotion are complex – they are more similar in their shape to a *walk to the bus stop* than to a mere *walk*. If we can characterise emotions as events in this way, then to give an account of how we directly perceive them, we just need to appeal to our account of how we directly perceive events.

But it is not enough to offer a picture of emotion perception which corresponds to event perception – it needs motivating. In §4.1 I mentioned various phenomenological and empirical features of the direct perception of events. I suggest now that each of them captures something about emotion perception.

Firstly, we saw that to directly perceive an event we do not need to perceive the entire event. One of the claims driving current theories of emotion perception is that we have incomplete access to emotions; we perceive aspects of them rather than the whole thing:

Perceiving a mind certainly does not lay bare before us all its thoughts, feelings, wishes, and so on, but neither does perceiving a table reveal to us the atoms and molecules that compose it. What however is perceived in both cases is a certain measure of reality. (Duddington 1918: 170)

The debate is then how we can capture our partial perception of emotions without adopting a picture of an inner/outer divide such that we must infer the presence of the inner parts of emotions by witnessing their outer expressive components (Sias & Bar-On, 2016). In perceiving events of emotion by perceiving some of the activities that compose them – by perceiving them *in progress* – we can capture the sense in which our access to emotions is incomplete without compromising on its directness. Perhaps the sense of incompleteness derives not from our access to one of two different kinds of emotional component, but from our partial perception of emotional activity.

Secondly, we saw that empirical research suggests event perception is an instance of perceptual constancy. Likewise, in our perception of them, emotions exhibit constancy (Heider 1958: 28; McNeill 2019: 176; Rowson 2023). To exhibit constancy in perception is to be perceived as stable amid variation in the mediating conditions. We experience the colour of the wooden table as stable, despite variation in the light which hits parts of it differently.

Similarly, we experience the emotions of others as stable despite variation in how emotions are expressed. When we watch a friend's anger unfold, they may cycle through a series of different expressive acts – silent rage can turn quickly to shouting. But we seem able to track their anger throughout these changes.

Thirdly, empirical research shows that our perception of events relies not just on sensory input but on various top-down processes. Our familiarity with events of a particular kind affects how we perceptually carve up event boundaries in the present. In a similar way, our ability to perceive the emotion of another is not a skill possessed equally by all perceivers. Proponents of the direct perception of emotion highlight this:

Observing my long-time friend Gayle, I call upon not only my implicit understanding of pan-cultural expressive facts and display rules local to our shared culture; I also draw upon my knowledge of Gayle's distinctive way of biting her lip when angry...As such it enables me to perceive her anger even when others with equally acute senses but less Gayle-experience cannot do so. (Green 2010: 51-52)

As well as familiarity with individuals, broader cultural familiarity has been shown to impact our ability to perceptually discriminate emotions. Many studies in cross-cultural variation in emotion recognition demonstrate that what some cultures can discriminate at a glance, others have a harder time perceiving (see Jack (2016) for a good overview). Such variation can be explained by the fact that some expressions of emotion are specific to particular groups; and our past experiences, in which we perceive such expressions, inform the way we perceptually discriminate emotions in the present.

We also saw that the perception of events is often multimodal. The perception of emotion is also not exclusively confined to one sense modality. While research shows that in adulthood our recognition of emotions is biased towards visual cues, children rely more heavily on auditory cues when learning how to discriminate the feelings of those around them (Bachorowski 1999; Walker-Andrews 2008). And not only do we perceive emotions via different sense modalities – hearing the sadness in someone's voice, seeing the fear in their eyes and feeling the terror in their hands – we often perceive emotions through some combination of these things (Shackman & Pollak 2005). When the sensory information provided by one modality is not sufficient for the recognition of emotion, agents *must* integrate information from these distinct sources (Massaro & Egan 1996).

Like event perception, emotion perception is often fuzzy. Our experience of another's anger does not manifest as something with a precise starting point. Our perception of their transition between disapproval and anger can be subtle and imprecise, but this need not mean that we have no sense of an emotional shift. Rather, it's just not the sort of perceptual phenomenon in which we can easily partition the two. This distinguishes emotion perception and event perception from the everyday perception of objects in which we do tend to discriminate relatively precise boundaries between things. In fact, some take such discrimination to be the marker of object perception (Dretske 1969).

Finally, like with our perception of events, we can perceive emotions within emotions. We can perceive the triathlon as one event but also distinguish other events within it, and we can perceive another's grief, while also being able to distinguish episodes of emotion within this – a phase of anger, a phase of sadness, etc.

For these reasons, it is not just the case that we can give a story about emotion perception that structurally matches our story about event perception, but moreover that such a story suits what we know about our perception of emotions. To summarise the account of DP on the model of event perception: to directly perceive Nina's sadness is to perceive the event of Nina's sadness by perceiving (some of) the activity which composes it.

4.3. Expressions as the stuff of emotions

How do expressions fit into the above analysis of what it is to directly perceive emotions? I have said that to directly perceive an emotion is to perceive an event of emotion by perceiving emotional activity. By emotional activity, I just mean the activity of the agent during the period of the event of emotion. The activity that Nina engages in while sad is what composes the event of her sadness.

It might be tempting to say that emotional activities *just are* expressions. That is, any of the activities that an agent engages in during an emotional episode are expressive of emotion. But this is not entailed by any account of expression that I am aware of. Even on a loose account of expressions being any behaviours that are caused by emotions, this does not render every emotional activity expressive. Nina is active throughout her period of sadness – but while some of her behaviours are the result of her feeling this way, others, like her drinking from a glass of water, have other mental phenomena as their cause.

So, at most, *some* of our emotional activities will be expressions. And which these are will further depend on the theory of expression that we adopt. For some, what distinguishes expressive from non-expressive behaviours has to do with their role in communication (Bar-On 2004: 270-274; Green 2007: 5). What makes an agent's behaviour expressive of emotion is that it was designed, either voluntarily or by evolution, to convey information about their emotions. While Green thinks that one way in which we communicate our emotions to others is by making them perceptible to others (2007: 47), he maintains that the range of behaviours which make an emotion perceptible is not the same as the range of things that express emotion. While blushing often reveals embarrassment by making it perceptible to others, it is not typically an expressive behaviour since it is not designed for the purpose of communication (2007: 27).

In contrast, others think that what it is for behaviour to be expressive is just that it enables the perception of emotion (Glazer 2017; Taylor 1980). What makes behaviour expressive is that it manifests an emotion by putting it out into the public domain – by making it something others can directly perceive (Taylor 1980: 283). With respect to DP on the model of event perception, accounts of expressions like these tell us that whenever we perceive an event of emotion by the activity that composes it, this activity is always expressive. On the other hand, if we follow something like Green's account, then when we perceive an event of emotion by the activity (the stuff) that composes it, this activity is very often expressive, but not always.

Either way, understanding DP on the model of event perception renders us an account of the perception of emotion in which we, at least often, perceive emotions by perceiving expressions. This, if we remember from §1, is what we are after. We want to do justice to the phenomenological claims that underwrite DP which refer to expression, without compromising its directness.

Furthermore, we saw in §3 that scientific work on emotions treats them as complex phenomena with numerous components. Standard componential models emphasise not just the cognitive component, but others such as physiological changes, action tendencies, expressive and subjective components. A benefit of the part-whole proposal about emotion perception is that it does justice to this picture – capturing it by suggesting that expressions are part-whole related to emotions in the way that the facing surface of the book is part-whole related to the book in part-whole perception. But now we can see that the account of DP on the model of event perception can do justice to the componential picture too. On our account, when we perceive emotions directly, we perceive them by perceiving some of the activity

which composes them. On either account of expression we adopt, this activity is always or very often expressive of emotion. Therefore, in most cases of emotion perception, we perceive emotions by perceiving expressions which compose – fill out in time – emotions. This is a part-whole relation of another kind to the one adopted in part-whole perception. While in part-whole perception we understand parthood in terms of spatial location, this kind of part-whole relation is one of temporal filler. It is akin, in the temporal realm, to the way in which the material paper composes a paper aeroplane in the spatial realm (rather than the way the wing of the aeroplane is part of the aeroplane).

Not only can the event analysis capture the compositional claim, but it can also avoid the problems faced by the traditional part-whole account. Firstly, one problem with the part-whole analysis was that it could not account for how emotions explain expressions; we cry because we are sad and shout because we are angry. This phenomenon is captured by the event proposal. We often invoke talk of events when explaining various activities. Why are they running? Because they're running a marathon. Why are you moving the sofa? Because I'm rearranging the living room. Why is she typing so fast? Because she's finishing her paper in the next hour. And so on. These events explain why one kind of activity is going on rather than another. Referencing the event is explanatorily rich in the sense that it can explain why they're running instead of watching a film, why you're moving a sofa instead of sitting on it, and why she's typing fast rather than slow. Of course, there are other explanations of someone's running besides marathons, but likewise there are other explanations of crying besides sadness. What matters, here, is not that the event is necessary for the activity in hand, but that in many cases it goes some way to making sense of why *this* activity is being engaged in *in this way*.

Secondly, a problem for the traditional part-whole analysis was that it is not obvious that expressions are parts of emotions in the sense that they take up some region of space within the emotion. On the current account of composition in terms of temporal filler, it is not difficult to see how expressions can be parts of emotions. We need not worry about how to account for some physical behaviours taking up space within some mental phenomena. All we need to say is that some of the events in the world are emotional; and just as other events must be filled with activity, so too for emotional events. Another way to put the point is to say that, on an account of DP on the model of object perception, we explore the option that our perception of emotions is like our perception of objects even though emotions are not like ordinary objects in many ways. An emotion is not like the tennis ball in front of me that I can pick up, draw a line around, squeeze and throw at the wall. But in accounting for DP on the model of event perception, the suggestion is not that emotions are perceived in the same way as events even though they are not like events. Rather, the suggestion is that there are events that are emotional and it is these that we perceive.

5. Objections

5.1. Emotions are mental states

An anticipated objection to my proposal is that emotions are not events; they are states. And so, while we might be able to perceive certain events by perceiving expressive activities, we are not really perceiving *emotions* themselves.

The ontology of mind distinguishes mental phenomena into states and occurrences, with occurrences further divisible into events or processes (Steward 1997). These ontological categories are distinguished in terms of how their members move through time. Mental states exist in time in a way that is similar to material objects. They obtain over time as wholly

present and without temporal parts. Something is wholly present across time if it is homogeneous down to its instants. That is, by predicating that it happened across a particular period of time, one entails that it happened at any point within that time (Rothstein 2004). Classic examples of mental states are beliefs and states of knowledge. Occurrences, on the other hand, are not wholly present over time. They unfold in time and can have temporal parts. That is, at the start of some event or process, there can be parts of the event or process that are yet to occur.

A common assumption in the philosophy of emotion is that emotions are mental states. This is implied by leading cognitive accounts of emotions which emotions are understood to be kinds of evaluative states of agents directed towards various intentional objects (Deonna & Teroni 2012, 2015; Solomon 1976; Tappolet 2016). And the assumption is made explicit (Parrott 2017; Soteriou 2017) or argued for (Smith 2017) in work dedicated to the ontology of emotion. Given this, we might worry that the ontology of emotion simply rules out DP on the model of event perception.

Besides pointing out that the debate surrounding the ontology of emotion is far from settled and that there is support in favour of understanding emotions as occurrences (Goldie 2011; Robinson 2017), there are two things to highlight in response. The first is that, insofar as the event perception picture is incompatible with emotions being states, it is not alone in this. On the model of object perception, the part-whole account of DP also precludes the possibility that emotions are states. This is because expressions are generally understood to be occurrences and states cannot have occurrences as parts. As discussed above, occurrences unfold through time and have temporal parts. This means that at some point during an occurrence there is some temporal part yet to take place. But if the occurrence is part of the state, and given transitivity, the state must have a temporal part that is yet to take place at that point in time. But this is not possible for states, given that they are wholly present whenever they exist (Parrott 2017; Smith 2017). So, while DP modelled on event perception wears its opposition to the state view on its sleeve, our most viable alternative fares at least as badly.

The second point is to suggest that understanding DP on the model of event perception is not in fact incompatible with emotions being states. There are two ways of defending compatibility here. One is to suggest that emotions are states, but they are not only or not always states. While emotions like sadness, happiness and resentment may strike us as moving through time as things like beliefs do, other emotions like grief, surprise and anger are less clearly wholly present whenever they exist – they can unfold over various distinct stages. And on one proposal of the ontology of emotion, emotion states obtain in virtue of various occurrences; we cannot fully specify what emotion states are like without specifying emotional events and processes they are constitutively dependent on (Soteriou 2017).

Another option is to grant that emotions are states, but to explain the direct perception of them in terms of the perception of events. Perhaps what we mean when we talk of perceiving emotions just is the perception of something ontologically distinct from emotion states. A worry for this response is as follows.¹¹ If we perceive emotions proper by perceiving something ontologically distinct (namely events of emotion), then insofar as perceiving something by perceiving something else generates perceptual indirectness, DP no longer retains its directness. This is a problem shared by the proposal that we perceive facts about emotions. In the case of fact perception, no one is claiming that emotions just are propositions like ‘that Patricia is jealous’. So if what we want from DP is an account of directly perceiving emotion states and our suggestion is that we directly perceive facts about emotions, then we are perceiving one thing in terms of another. And so we might worry that if we can accept this level of indirectness for the event model, we should accept it for the fact model too.

¹¹ Thank you to an anonymous reviewer for pointing this out.

There are two things we can say here. Firstly, leaving the above point about indirectness aside, the fact proposal is still worse-off than the event proposal. In §2 I pointed out that our perception of facts about emotions involves an indeterminacy in property perception that is not present in many ordinary cases of perceiving-that. So there is a disanalogy between our perception of non-emotional facts and our perception of emotional facts, even before we think about the indirectness of perceiving states by perceiving facts. As such, even if the event model is guilty of this latter kind of indirectness, the fact model involves indirectness at two levels. Secondly, another way to understand the suggestion that what it is to directly perceive emotions is to perceive events of emotion is to drop the idea that we perceive emotion states altogether. The suggestion would be that what we are doing when we take ourselves to be perceiving emotions is in fact perceiving events of emotion. We need not add an additional step in the perceptual process, but rather understand what DP stands for as the direct perception of *events of* emotion.

5.2. Expressions without emotions

It is quite normal to refer to certain behaviours as expressions even when there is no emotion present. We might describe as expressive an actor who cries but in fact feels nothing. The intuition that there can be expressions without emotions has been used as an objection to accounts of expression which imply the opposite (Davis 2008). In response, some accounts which are seemingly unfriendly to the idea of emotionless expressions have made room for such a possibility. For example, while an account which tells us something is expressive only if it makes an emotion perceptible might imply there can be no expression without an emotion, such an account can be qualified such that making an emotion perceptible can be understood more broadly. It can mean enabling our perception of the thing itself or enabling perception-*as* – seeing someone *as* happy even if they are not (Glazer 2017: 3631).

An upshot of the traditional part-whole account of DP is that it can accommodate expressions without emotions. We can see the house even if it's entirely covered in scaffolding so that only one brick is visible. We see the house by seeing the brick which is part of it. But bricks can come apart from houses and still be bricks. They can also still be *seen as bricks*. If expressions are like bricks, they can not only exist without the wholes they compose but can be perceived in and of themselves.

However, when it comes to the event model of DP, it is not obvious how we can make sense of expressions without emotions (plain expressions). In characterising the relationship between activities and events, I said that whenever there is some activity, there is an event. Just as, in the spatial realm, whenever there is some stuff, that stuff composes a particular. Since in emotion perception, emotions are events and expressions are activities, one might think it follows that whenever there is an expressive activity, there is an event of emotion. That is, whenever some expressive activity begins and ends, a corresponding emotion event is created.

But while stuff composes particulars of a certain kind, there is some degree of flexibility. That is, paper does not always come in the form of paper aeroplanes – its corresponding particulars are more diverse than this. The point is that just because expressive activity must be bounded by events, these events need not always be emotional. If there can be expressions without emotions, then in these cases, such expressions may make up mere events of expression. Just as running must compose a simple event of a run, plain smiling might make up a simple event of a smile.

A further worry may follow. If expressive activities can come apart from events of emotion, then what makes us think we ever perceive events of emotion rather than mere events of expression?

In response to this, we should first notice that this worry is not special to the event proposal. It mirrors the kinds of concerns raised in §2 and §3 wherein it was argued that our perception of emotions as facts and our perception of emotions as objects is not analogous to our ordinary perceptions of these categories. In the fact case, our perceptual knowledge of emotions came from seeing some non-emotional features (expressive features) and in the object case, we only ever perceive emotions by perceiving expressions. The fact that we clap eyes (or ears) on expressions in some way distinguishes the emotion case from ordinary perceptual cases in which the features or objects involved can be accessed directly.

But the nature of event perception is already well-placed to deal with this. There is no better access possible than our access via activities. We perceive events by perceiving the activities that compose them. So, stipulating that some of these activities are expressive makes no difference from the perspective of our access to events of emotion. Unlike in the criticisms raised against the fact and object models, the involvement of expressions doesn't distinguish emotion perception from ordinary event perception.

And once we notice this, then we notice that the above worry is just a variant of a more general kind of sceptical concern. It is just to say that because we can perceive expressive events and these can look no different to us than emotional events, we can never be sure which we perceive. As should be clear, not only is this worry not special to perceiving events of emotion, but it is also not special to the perception of emotions more generally. Rather, it mirrors sceptical worries concerning deception that we might raise for our perceptual knowledge of anything (Gomes 2011: 354). Insofar as we can rescue all perceptual knowledge, our present account remains a strong account of what it is to perceive emotions when we do.

6. Conclusion

In explaining how we perceive emotions, there are two traditional accounts. One explains emotion perception by analogy with our perception of facts and the other by analogy with our perception of objects. For the proponent of our *direct* perception of emotion there is a problem on either account. Our awareness of facts about emotions is less good than our awareness of other kinds of facts, since in ordinary fact perception there is at least the possibility of being aware that a is F by perceiving Fness.

The proposal that we perceive emotions as we do ordinary objects stands a better chance of capturing DP. While it faced the problem that we only ever perceive emotions by perceiving expressions and not the objects themselves, some have argued that this mirrors how we only perceive objects by perceiving parts of those objects. This, however, commits one to understanding expressions as parts of emotions in terms of spatial location and raises several problems therein.

I have raised a third possibility, one which understands expressions as parts of a different sort. We can model our perception of emotion on our perception of events without any loss in directness. Both philosophy and psychology support a picture in which we perceive events by perceiving the activities that make them up in time. Therefore, we can capture the direct perception of emotion by suggesting that we perceive events of emotion by perceiving the expressive activities that compose them. Not only does this account avoid some of the problems raised in relation to the traditional part-whole account, but it captures some important features of emotion perception. These are that our perception of an emotion doesn't involve perceiving the entire emotion; emotion perception is an instance of perceptual

constancy; our perception of emotions involves various top-down processes; it is often multimodal; the boundaries between emotions can be fuzzy; and it is possible to perceive emotions within emotions.

Acknowledgments

Thanks to Thomas Crowther, Mark Kalderon, Rory Madden, Kael McCormack, Bence Nanay and Matthew Soteriou, for valuable feedback on earlier drafts. Thanks also to audiences in Antwerp and Leeds, as well as the Editors and Reviewers at Ergo for their generous comments.

References

- Bachorowski, J.-A. (1999). Vocal Expression and Perception of Emotion. *Current Directions in Psychological Science*, 8(2), 53–57. <https://doi.org/10.1111/1467-8721.00013>
- Bar-On, D. (2004). *Speaking My Mind: Expression and Self-Knowledge*. Oxford University Press UK.
- Barrett, L. F. (2017). The theory of constructed emotion: An active inference account of interoception and categorization. *Social Cognitive and Affective Neuroscience*, 12(1), 1–23. <https://doi.org/10.1093/scan/nsw154>
- Barrett, L. F., Adolphs, R., Marsella, S., Martinez, A. M., & Pollak, S. D. (2019). Emotional Expressions Reconsidered: Challenges to Inferring Emotion From Human Facial Movements. *Psychological Science in the Public Interest*, 20(1), 1–68. <https://doi.org/10.1177/1529100619832930>
- Burge, T. (1975). Mass Terms, Count Nouns, and Change. *Synthese*, 31(3/4), 459–478.
- Burge, T. (2010). *Origins of Objectivity*. Oxford, GB: Oxford University Press.
- Cartwright, H. M. (1970). Quantities. *Philosophical Review*, 79(1), 25–42. <https://doi.org/10.2307/2184067>
- Casati, R., & Dokic, J. (1994). *La Philosophie du Son*.
- Casati, R., & Dokic, J. (2009). Some Varieties of Spatial Hearing. In M. Nudds & C. O’Callaghan (Eds.), *Sounds and Perception: New Philosophical Essays*. Oxford University Press.
- Cassam, Q. (2007). *The Possibility of Knowledge*. Oxford University Press.
- Chappell, V. C. (1971). Stuff and Things. *Proceedings of the Aristotelian Society*, 71, 61–76. <https://doi.org/10.1093/aristotelian/71.1.61>
- Crowther, T. (2011). The Matter of Events. *The Review of Metaphysics*, 65(1), 3–39.
- Crowther, T. (2014). The Perception of Activity. *Ratio*, 27(4), 439–461. <https://doi.org/10.1111/rati.12080>
- Davis, W. (2008). Expressing, meaning, showing, and intending to indicate. *Intercultural Pragmatics - INTERCULT PRAGMAT*, 5, 111–129. <https://doi.org/10.1515/IP.2008.007>
- Deonna, J. A., & Teroni, F. (2015). Emotions as Attitudes. *Dialectica*, 69(3), 293–311.
- Deonna, J., & Teroni, F. (2012). *The Emotions: A Philosophical Introduction*. Routledge.
- Dowty, D. R. (1982). Word Meaning and Montague Grammar. *Philosophical Review*, 91(2), 290–295. <https://doi.org/10.2307/2184639>
- Dretske, F. I. (1969). *Seeing And Knowing*. Chicago: University Of Chicago Press.
- Dretske, F. I. (1973). Perception and Other Minds. *Noûs*, 7(1), 34–44. <https://doi.org/10.2307/2216182>

- Duddington, N. A. (1918). Our Knowledge of Other Minds. *Proceedings of the Aristotelian Society*, 19, 147–178.
- Gallagher, S. (2008). Direct Perception in the Intersubjective Context. *Consciousness and Cognition*, 17, 535–543. <https://doi.org/10.1016/j.concog.2008.03.003>
- García Rodríguez, Á. (2018). Direct Perceptual Access to Other Minds. *International Journal of Philosophical Studies*, 26(1), 24–39. <https://doi.org/10.1080/09672559.2017.1409249>
- García Rodríguez, Á. (2021). How emotions are perceived. *Synthese*. <https://doi.org/10.1007/s11229-021-03209-1>
- Glazer, T. (2017). Looking angry and sounding sad: The perceptual analysis of emotional expression. *Synthese*, 194(9), 3619–3643. <https://doi.org/10.1007/s11229-016-1113-1>
- Glazer, T. (2018). The part-whole perception of emotion. *Consciousness and Cognition*, 58, 34–43. <https://doi.org/10.1016/j.concog.2017.10.008>
- Goldie, P. (2011). Grief: A Narrative Account. *Ratio*, 24(2), 119–137. <https://doi.org/10.1111/j.1467-9329.2011.00488.x>
- Gomes, A. (2011). Is There a Problem of Other Minds? *Proceedings of the Aristotelian Society*, 111, 353–373.
- Gomes, A. (2019). Perception, Evidence, and Our Expressive Knowledge of Others' Minds. In *Knowing Other Minds*. Oxford University Press. <https://doi.org/10.1093/oso/9780198794400.003.0008>
- Green, M. (2010). Perceiving Emotions. *Proceedings of the Aristotelian Society, Supplementary Volumes*, 84, 45–61.
- Green, M. S. (2007). *Self-Expression*. Oxford University Press.
- Grice, H. P., & White, A. R. (1961). The Causal Theory of Perception. *Aristotelian Society Supplementary Volume*, 35(1), 121–168. <https://doi.org/10.1093/aristoteliansupp/35.1.121>
- Hahn, C. J. (2010). Edmund Husserl, The Basic Problems of Phenomenology: From the Lectures, Winter Semester, 1910–1911. Translated by Ingo Farin and James G. Hart. *Husserl Studies*, 26(3), 245–249. <https://doi.org/10.1007/s10743-010-9073-7>
- Hampshire, S. (1972). *Freedom of Mind and Other Essays*. Oxford, Clarendon Press.
- Heider, F. (1958). *The psychology of interpersonal relations* (pp. ix, 326). John Wiley & Sons Inc. <https://doi.org/10.1037/10628-000>
- Hornsby, J. (1988). *Physicalism, Events and Part-Whole Relations*.
- Jack, R. E. (2016). Cultural Specificities in the Transmission and Decoding of Facial Expressions of Emotion. In C. Abell & J. Smith (Eds.), *The Expression of Emotion* (pp. 173–198). Cambridge University Press. <https://doi.org/10.1017/CBO9781316275672.009>
- Jack, R. E., Garrod, O. G. B., Yu, H., Caldara, R., & Schyns, P. G. (2012). Facial expressions of emotion are not culturally universal. *Proceedings of the National Academy of Sciences*, 109(19), 7241–7244.
- Jackson, F. (1978). Perception. *Philosophical Books*, 19(May), 49–56. <https://doi.org/10.2307/2218853>
- Krueger, J. (2014). Emotions and Other Minds. In J. Weber & R. Campe (Eds.), *Rethinking Emotion: Interiority and Exteriority in Premodern, Modern, and Contemporary Thought* (pp. 324–350). De Gruyter.
- Krueger, J., & Overgaard, S. (2012). Seeing Subjectivity: Defending a Perceptual Account of Other Minds. *ProtoSociol: Conscious Subj*, 47.
- Lewis, D. (1986). *On the Plurality of Worlds*. Wiley-Blackwell.
- Locke, J. (1689). *An Essay Concerning Human Understanding* (P. Phemister, Ed.). New York: Oxford University Press.

- Massaro, D. W., & Egan, P. B. (1996). Perceiving affect from the voice and the face. *Psychonomic Bulletin & Review*, 3, 215–221. <https://doi.org/10.3758/BF03212421>
- McNeill, W. E. S. (2012). On Seeing That Someone is Angry. *European Journal of Philosophy*, 20(4), 575–597. <https://doi.org/10.1111/j.1468-0378.2010.00421.x>
- McNeill, W. E. S. (2019). Expressions, Looks, and Others' Minds. In *Knowing Other Minds*. Oxford University Press. <https://doi.org/10.1093/oso/9780198794400.003.0009>
- Mill, J. S. (2009). *An Examination of Sir William Hamilton's Philosophy: Ix. An Examination of Sir William Hamilton's Philosophy*. Routledge.
- Mourelatos, A. P. D. (1978). Events, Processes, and States. *Linguistics and Philosophy*, 2(3), 415–434. <https://doi.org/10.1007/BF00149015>
- Noordewier, M. K., Topolinski, S., & Van Dijk, E. (2016). The Temporal Dynamics of Surprise. *Social and Personality Psychology Compass*, 10(3), 136–149. <https://doi.org/10.1111/spc3.12242>
- O'Callaghan, C. (2009). Sounds and Events. In M. Nudds & C. O'Callaghan (Eds.), *Sounds and Perception: New Philosophical Essays* (pp. 26–49). Oxford University Press.
- Parrott, M. (2017). The Look of Another Mind. *Mind*, 126(504), 1023–1061. <https://doi.org/10.1093/mind/fzw001>
- Price, H. H. (1932). *Perception*. Methuen & Co.
- Quine, W. V. O. (1960). *Word & Object*. MIT Press.
- Radvansky, G., & Zacks, J. M. (2011). Event Perception. *Wiley Interdisciplinary Reviews. Cognitive Science*, 2(6), 608–620. <https://doi.org/10.1002/wcs.133>
- Roelofs, L. (2017). Seeing the Invisible: How to Perceive, Imagine, and Infer the Minds of Others. *Erkenntnis*, 83(2), 205–229. <https://doi.org/10.1007/s10670-017-9886-2>
- Rothstein, S. (2004). *Structuring Events*. Blackwell.
- Rowson, R. (2023). Expressions of emotion as perceptual media. *Synthese*, 201(6), 222. <https://doi.org/10.1007/s11229-023-04212-4>
- Scheler, M. (2008). *The Nature of Sympathy*. Transaction Publishers.
- Schellenberg, S. (2016). Perceptual Particularity. *Philosophy and Phenomenological Research*, 93(1), 25–54. <https://doi.org/10.1111/phpr.12278>
- Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information*, 44(4), 695–729. <https://doi.org/10.1177/0539018405058216>
- Shackman, J. E., & Pollak, S. D. (2005). Experiential Influences on Multimodal Perception of Emotion. *Child Development*, 76(5), 1116–1126.
- Sias, J., & Bar-On, D. (2016). Emotions and Their Expressions. *The Expression of Emotion*, 46.
- Smith, J. (2017). The Perceptibility of Emotion. In H. Naar & F. Teroni (Eds.), *The Ontology of Emotions* (1st ed., pp. 130–148). Cambridge University Press. <https://doi.org/10.1017/9781316275221.008>
- Solomon, R. C. (1976). *The Passions*. University of Notre Dame Press.
- Soteriou, M. (2010). Perceiving events. *Philosophical Explorations*, 13(3), 223–241. <https://doi.org/10.1080/13869795.2010.501904>
- Soteriou, M. (2017). The Ontology of Emotion. In F. Teroni & H. Naar (Eds.), *The Ontology of Emotions* (pp. 71–89). Cambridge University Press. <https://doi.org/10.1017/9781316275221.005>
- Spaulding, S. (2015). On Direct Social Perception. *Consciousness and Cognition*, 36, 472–482. <https://doi.org/10.1016/j.concog.2015.01.003>
- Stein, E. (1964). *On the Problem of Empathy*. Ics Publications.
- Steward, H. (1997). *The Ontology of Mind: Events, Processes, and States*. Oxford University Press.
- Stout, R. (2010). Seeing the Anger in Someone's Face. *Proceedings of the Aristotelian Society, Supplementary Volumes*, 84, 29–43.

- Strawson, P. F. (1959). *Individuals: An Essay in Descriptive Metaphysics*. London, England: Routledge.
- Tappolet, C. (2016). *Emotions, Values, and Agency*. Oxford University Press.
<https://doi.org/10.1093/acprof:oso/9780199696512.001.0001>
- Taylor, B. (1977). Tense and Continuity. *Linguistics and Philosophy*, 1(2), 199–220.
- Taylor, C. (1980). Theories of meaning. *Man and World*, 13(3), 281–302.
<https://doi.org/10.1007/BF01252549>
- Tormey, A. (1971). Inference and Expression. In *The Concept of Expression: A Study in Philosophical Psychology and Aesthetics* (pp. 39–60). Princeton University Press.
<https://www.jstor.org/stable/j.ctt13x1b0v.6>
- Vendler, Z. (1957). Verbs and Times. *The Philosophical Review*, 66(2), 143–160.
<https://doi.org/10.2307/2182371>
- Walker-Andrews, A. S. (2008). Intermodal emotional processes in infancy. In *Handbook of emotions, 3rd ed* (pp. 364–375). The Guilford Press.
- Wittgenstein, L. (1967). *Zettel: Edited by G. E. M. Anscombe and G. H. Von Wright. Translated by G. E. M. Anscombe*. Berkeley and Los Angeles: Univ of California Press.
- Wittgenstein, L. (1980). *Remarks on the Philosophy of Psychology, Volume 2*. University of Chicago Press.
- Zacks, J. M., Speer, N. K., Swallow, K. M., Braver, T. S., & Reynolds, J. R. (2007). Event perception: A mind-brain perspective. *Psychological Bulletin*, 133(2), 273–293.
<https://doi.org/10.1037/0033-2909.133.2.273>
- Zacks, J. M., & Tversky, B. (2001). Event structure in perception and conception. *Psychological Bulletin*, 127(1), 3–21. <https://doi.org/10.1037/0033-2909.127.1.3>