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# THE PERCEPTION OF ACTIVITY<sup>1</sup>

*Thomas Crowther*

## *Abstract*

There is a much-discussed form of argument the conclusion of which is that we do not directly perceive space-filling material objects themselves, only parts of their surfaces. Donald Davidson's view that events are temporal particulars invites a structurally similar argument about the direct perception of events. In this paper, I spell out such an argument and consider a number of possible solutions to it. I explore the idea that a satisfactory response to this problem in the philosophy of perception can be grounded in a temporal ontology that includes temporal stuff as well as temporal particulars. I discuss different ways of developing this idea, and I go on to identify what I take to be the most promising version of an approach of this kind.

As well as perceiving material objects and their properties it seems that we also perceive events. In our everyday thought and talk we are happy to pick ourselves, and others, out as having seen, say, the changing of the guard, or having heard some particular car crash. In work on the philosophy of perception, it is hard to find much resistance to the idea that events are capable of being perceived.<sup>2</sup> But though there are some important exceptions, there has been relatively little sustained discussion of the perception of events in the literature.<sup>3</sup>

In this paper I focus on a puzzling feature of the perception of events that arises given the type of view about events that has become the orthodoxy across metaphysics, the philosophy of language, and formal semantics. Given such a view of what an event is, there is a difficulty for the idea that we directly perceive events that is structurally analogous to a familiar form of worry about whether we directly perceive material objects themselves, rather than merely parts of their surfaces. In the first part of the paper I set up this problem in more detail. I will then outline some initial suggestions about how to address it, and briefly present difficulties for these suggestions. Following that, I will go on to sketch out the form of an explanation of this feature, in a discussion that takes a closer look at the metaphysics of time-occupation, and that draws on the idea that there are important distinctions within the category of broadly occurrent things that concern how such things occupy periods of time. Each of the ideas that I draw on during the course of the paper involves much that is contentious, and there is more to be said in defence of these ideas than I can say in the space I have available to me here. My intention in this paper is simply to draw attention to a problem about the perception of events and to provide some preliminary motivation for a proposal about how it is to be explained.

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<sup>2</sup> For representative claims see, for example, J. L. Austin, *Sense and Sensibilia*. (Oxford, O.U.P., 1962) and Fred Dretske, *Seeing and Knowing*, (Chicago, University of Chicago Press, 1969), pp.14ff, 31ff, and chapter IV.

<sup>3</sup> For important discussions of the perception of events see James Higginbotham, 'The Logic of Perceptual Reports: An Extensional Alternative to Situation Semantics', *The Journal of Philosophy* 80 (1983), pp.100- 27; Brian O'Shaughnessy, *Consciousness and the World*, (Oxford, O.U.P., 2000), chapter 1; and Matthew Soteriou 'The Perception of Events', *Philosophical Explorations*. 13, 3 (2010), pp. 223-241, and *The Mind's Construction*. (Oxford, O.U.P., 2013), chs. 4 and 5.

Though I have introduced the issue in terms of a feature of the perception of events, my focus in what follows is on a feature of the phenomenal character of sense-perceptual experiences of a certain kind. The phenomenal character of an experience I take to be ‘what it is like’ for the subject of such an experience to be undergoing it.<sup>4</sup> I assume that, whatever precisely the relation is between the two notions, the perception of events at least involves the occurrence of sense-perceptual experience of events. Seeing the demolition of the chimney at least involves a visual experience of the demolition of the chimney. Hearing the altercation at the bus-stop outside the window at least entails an auditory experience of the altercation. I will assume also that introspective reflection on what it is like for us to have sense-perceptual experiences of the relevant kind is at least capable of delivering evidence for views about the nature of such experiences.<sup>5</sup>

### 1 A Problem about the Perception of Events

In a series of influential papers, Donald Davidson argued that events are dated, unrepeatable, particulars. Take the sinking of the Titanic. On Davidson’s view, the sinking of the Titanic is something particular. It has a set of boundaries that distinguish between where it is in time and where it isn’t; boundaries which constitute its beginning and its end. It is something that is singled out by the use of singular terms and the apparatus of singular reference (e.g. the definite description ‘the sinking of the Titanic’), and can be singled out in different ways, (e.g., ‘the most famous maritime disaster in history’). Events are unrepeatable, on this view, because they are concrete particulars; they are things in space and time, unlike universals or types, which are things capable of being instantiated on a number of different occasions. Crudely put, on this view, events are concrete particular entities that are, in many respects, analogous to space-occupying, bounded, material objects.<sup>6</sup> As well as raising a range of problems for a number of rival accounts, Davidson showed that this approach allows for a satisfying treatment of the truth-conditions of a category of sentences involving adverbial modification of action-verbs. Taking the logical form of action sentences to involve implicit existential quantification over events as dated, unrepeatable, particulars, explains the entailment from “Jones buttered the toast quickly” to “Jones buttered the toast”, an entailment that is mysterious if we analyse these sentence in standard predicate logic.<sup>7</sup> From the basic idea that our temporal discourse has a logical form that includes implicit quantification over events as concrete particulars has sprung up a thriving research programme in the philosophy of language and formal semantics. Though there continues to be much research on the metaphysics of events and time-occupation, and though there is nothing about Davidson’s discussion of events which is not vigorously disputed, the Davidsonian position on events is the broadly prevailing view.

So if events are temporal particulars, then our perception of events is the perception of temporal particulars. Taking events to be analogous to material objects in respect of being

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<sup>4</sup> The terminology is that instituted by Thomas Nagel, ‘What is it Like to be a Bat?’, *Philosophical Review*, 83 (1974), pp. 435–50.

<sup>5</sup> That is not to assume the irrelevance of work drawn from an empirical discipline like psychology to these questions. There are a number of parts of the discussion where empirical work is going to be obviously relevant to these issues. But that work is not going to be the focus of my discussion here.

<sup>6</sup> That events are taken to be analogous to material objects on this view does not entail that they are analogous in all respects. Parts of the discussion below will turn on some of these disanalogies.

<sup>7</sup> See, for example, Donald Davidson, ‘The Logical Form of Action Sentences’, in N. Rescher (ed.), *The Logic of Decision and Action*, (Pittsburgh: University of Pittsburgh Press, 1967), pp. 81–95, and ‘The Individuation of Events’, in N. Rescher (ed.), *Essays in Honor of Carl G. Hempel*, (Dordrecht, Reidel, 1969), pp. 216–34.

bounded concrete particulars creates an attractive way to understand aspects of our commonsense conception of event perception. But it also invites a distinctive kind of worry, a worry that has been raised with respect to our commonsense conception of the visual perception of bounded, space-filling material objects.<sup>8</sup> To begin to fill in the background to an explanation of these ideas, it is familiar for philosophers of perception to distinguish between direct and indirect perception (or between immediate and mediate perception). The question about exactly how to understand this distinction is controversial. But for the purposes of the discussion that follows, I will assume a conception of the distinction offered by M.G.F. Martin (2005). In visual perception, one undergoes visual experience. In visual experience, things look a certain way to one, and there is something that it is like for such an event to go on in one. The notion of the direct perception of an object is to be understood in terms of the role that some object plays in determining how things look. Some object is directly perceived on an occasion “if it responsible for how things...look to you on that occasion.” (2005: 206) Again: “(A)n object will count as an immediate object of perception where that object figures among those that determine the way one’s experience currently is.” (2005: 208)<sup>9</sup> Prior to philosophical argument, we take it that the middle-sized objects of the world are directly perceived. For we take it to be how things are with those things that determines how things look to us to be in visual experience. And so also it appears in the case of events. We take it that when Lily perceives the event which is Isaac’s walk across the carpet, it is that walk that is the direct or immediate object of perception. For it is how things are with that event that seems to us to determine how things look to Lily, and which seems to determine what it is like for her to be undergoing the experience that she is undergoing during the relevant interval of time.

The conception of events as temporal particulars suggests a natural way to conceptualize an important type of instance of the direct perception of events. Canonical cases of direct visual perception of solid and space-filling material objects located in space, at least according to the commonsense conception, involve the direct perception of a material object, even though it is not the case that the complete object is directly perceived. The book on the table in front of me is something I take myself to directly perceive, for example, even though not all of it—the far side and the surface that rests on the top of the desk—is visible to me. Something structurally similar appears to obtain in the temporal case. Suppose that Lily watches Isaac walk across the living room from the sofa to the wall from t1-t10. Now take the time t5-t6, while Isaac is roughly halfway through his walk. What Lily directly perceives during the time t5-t6, it is natural to think, is Isaac’s walk, even though Lily does not directly perceive the whole walk, or the complete walk, during that sub-interval of time. It is Isaac’s walk she perceives during that time because it is that very event that unfolds before her eyes during that time. But she does not directly perceive the complete event during t5-t6, because

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<sup>8</sup> For discussion of this question, see G. E. Moore, ‘Some Judgments of Perception’, *Proceedings of the Aristotelian Society*, 19 (1918), pp. 1- 28; Thompson Clarke, ‘Seeing Surfaces and Physical Objects’, in Max Black (ed.) *Philosophy in America*, (London, George Allen & Unwin, 1965), and M. G. F. Martin, ‘Perception’ in Frank Jackson and Michael Smith (eds.), *The Oxford Handbook of Contemporary Philosophy*. (Oxford, O.U.P., 2005). I discuss the bearing of the argument that follows below on the case of the direct perception of material objects in my “Seeing Stuff” (in preparation).

<sup>9</sup> This is to assume a minimal conception of what it is to directly perceive an object. A more detailed development of the idea would need to say more about the distinctive ways in which the things which are directly perceived determine, or are responsible, for how things look. I note also that it is not a commitment of this minimal conception of the direct perception of objects that there are no aspects of the character of one’s perceptual experience that are not determined by such objects; that is, it is not assumed that the way that such objects of perception determine the phenomenal character of experience is that they wholly determine it.

certain parts of that event are not visible to her during that period. In the light of these ideas, let us then suppose that in the kind of case described:

(1) From  $t_5$ - $t_6$ , Lily directly perceives the walk, though not the complete walk.

But now consider the following, familiar form of argument. Suppose again a case of the kind just described, in which from  $t_1$ - $t_{10}$ , Lily watches Isaac walk across the living room from the sofa to the wall. Call this Case 1. What Lily directly perceives during any sub-interval of that time is what is responsible for how things look to her during that sub-interval of time. So what Lily directly perceives during the sub-interval  $t_5$ - $t_6$ , a sub-interval of time roughly halfway through the walk, is what is responsible for how things look to her during  $t_5$ - $t_6$ . But what is responsible for how things look to Lily during  $t_5$ - $t_6$ , in Case 1, it can be argued, is the temporal part or phase of the walk that Isaac took from  $t_5$ - $t_6$ , rather than the walk that he took from  $t_1$ - $t_{10}$ . The reason for this is the following. Suppose that things had been different with respect to Isaac's walk before  $t_5$  and after  $t_6$ , but otherwise the same during that period of time. Call this Case 2. In this case, how things would have looked to Lily from  $t_5$ - $t_6$  would have been the same as how they looked to her from  $t_5$ - $t_6$  in Case 1. In these counterfactual circumstances, what determines how things looked to Lily with respect to Isaac's walk cannot have been any of the parts of the walk that Isaac actually walked that took place from  $t_1$ - $t_5$  or from  $t_6$ - $t_{10}$ , because those parts are absent in Case 2. Rather, what determines how things looked to Lily during that time is just the temporal part or temporal phase of Isaac's walk that occurs from  $t_5$ - $t_6$ . But the temporal part of Isaac's walk that occurs from  $t_5$ - $t_6$  is not identical with the walk itself. If what determines how things looked to Lily over this period of time in Case 2 is just the temporal part of Isaac's walk that occurs from  $t_5$ - $t_6$ , and not the walk itself, then that must be what determines the character of Lily's experience in Case 1. For in the actual and counterfactual situation, things look just the same to Lily with respect to Isaac's walk during that period of time.

More formally:

(2) If how things look to Lily is the same in Case 1 and Case 2 then from  $t_5$ - $t_6$  what Lily directly perceives is the temporal part of Isaac's walk that is present from  $t_5$ - $t_6$ .

(3) How things look to Lily is the same in Case 1 and Case 2.

(4) From  $t_5$ - $t_6$  what Lily directly perceives is the temporal part of Isaac's walk that is present from  $t_5$ - $t_6$ .

(5) The temporal part of Isaac's walk that is present from  $t_5$ - $t_6$  is not identical with the walk.

(6) From  $t_5$ - $t_6$ , Lily does not directly perceive Isaac's walk.

The conclusion of this argument, (6), is inconsistent with (1). If from  $t_5$ - $t_6$  Lily does not directly perceive Isaac's walk, then it is not the case that from  $t_5$ - $t_6$  she directly perceives the walk, but not the complete walk. But if (1) articulates a commonsense conception of our direct perception of events in the relevant kind of case, then the argument just offered appears to provide reasons to think that this conception of the direct perception of events is mistaken. And that creates a question about whether, and if so, how, we perceivers are capable of directly perceiving events themselves at all, rather than mere temporal parts of events.

I want to consider the problem just outlined, in the first instance, as a problem that arises independently of further specific commitments about phenomenal character. There are different views about the nature of the phenomenal character of perceptual experience. Each of these views determines different kinds of view about exactly what it is to directly perceive something. The two leading views about the nature of sense-perceptual experience in the

recent literature are naïve realism and the intentionalist theory of perception. Very briefly a naïve realist takes as central to his explanation of the phenomenal character of perceptual experience the occurrence of veridical perception; an event that involves a subject standing in a relation of acquaintance to mind-independent objects and their properties.<sup>10</sup> For the naïve realist, the phenomenal character of illusory and hallucinatory experience, and the very notion of sense-perceptual experience is to be understood in terms of the nature of veridical perception. According to an intentionalist theory of perception, the phenomenal character of experience is to be understood either partly or completely in terms of the intentional content that an experience possesses.<sup>11</sup> The intentional content that an experience possesses is either identical with, or determines, a condition of correctness for the experience.

For the naïve realist, the problem about the perception of events that I have just outlined is the following. Reflection on the phenomenology of putative cases of event perception seems to show that during sub-intervals of time over which events are putatively perceived, the entities to which the perceiver is related, such that those entities are responsible for how things look to the perceiver during the relevant period of time, are temporal parts of events, rather than events themselves. But at the same time, it seems to be part of our commonsense conception of event perception that during these sub-intervals of time, events themselves are directly perceived, only not complete events. For the intentionalist the problem is to be understood in terms of what figures in the intentional content that is possessed by the states that obtain, or the episodes that occur, at or during times in which events are putatively perceived. Reflection on the contrast cases appears to show that what is represented in the intentional content of the perceptual experience over the relevant sub-intervals of time, where those entities represented are responsible for determining how things look to the perceiver to be in case the perception is veridical, are temporal parts or phases of the events that occur over a period of time, rather than events themselves. But our commonsense conception of event perception during the relevant period of time is that what is represented during such a sub-interval of time is an event, though not a complete event, or not all of an event. In the same way that I have stated the problem in terms that I take to be independent of such specific further views about phenomenal character, in what follows, I will be focussed on developing types of solution that are independent of commitments to particular views about the nature of phenomenal character.

## 2 Some Initial Responses

One possible response to this argument would be to argue in the following way. The argument (2)-(6) is persuasive. Consequently, proposition (1) ought to be rejected. But the fact that (6) is true and (1) is false does not entail that it is never the case that events are directly perceived. Perceivers are capable of directly perceiving events. But they only directly perceive events over the whole interval of time during which the complete event takes place. In the particular case discussed, it is true that during  $t_5$ - $t_6$ , Lily only directly perceived the temporal part of Isaac's walk that occurred from  $t_5$ - $t_6$  and not the walk itself. It is only over  $t_1$ - $t_{10}$  that Lily directly perceived Isaac's walk itself. What it is to directly perceive an event

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<sup>10</sup> See John McDowell (1982), 'Criteria, Defeasibility, and Knowledge', *Proceedings of the British Academy*, 68 (1982), pp. 455-79; Paul Snowdon, 'Perception, Vision and Causation', *Proceedings of the British Academy*, 81 (1980), pp.175- 92, and M. G. F. Martin, 'On Being Alienated', in Gendler, T. and Hawthorne, J. (eds) *Perceptual Experience*. (Oxford. O.U.P., 2006)

<sup>11</sup> See John Searle (1983), *Intentionality*. (Cambridge, C. U. P., 1983); Gilbert Harman, 'The Intrinsic Quality of Experience'. *Philosophical Perspectives*, 4 (1990), pp. 31-52, and Tim Crane, *Elements of Mind*, (Oxford, O.U.P., 2000).

over a whole interval of time is to be understood in terms of the direct perception of the temporal parts of an event. What it is to directly perceive an event over a whole interval of time is to directly perceive an ordered succession of contiguous temporal parts of an event, one after the other, from the time the event began to the time it was completed. In the case in question, what it is for Lily to directly perceive Isaac's walk is for her to directly perceive a temporal part of the event in which he sets off unsteadily from the sofa, followed by the temporal part of the event in which he traverses the edge of the carpet, ... and so on, until he halts at the wall. Once this fact about how events themselves are directly perceived is recognized, so the argument goes, it is clear why the truth of (6) need not create deep problems for the view that we are capable of directly perceiving events.

A different line of response to this difficulty might involve a more direct engagement with the argument from (2)-(6). One such line of response might run as follows. What it is that occurs from  $t_x$ - $t_y$  is not determined solely by what goes on from  $t_x$ - $t_y$  independently of what goes on during intervals of time of which  $t_x$ - $t_y$  is a sub-interval. For example, if S travels from A to B during  $t_x$ - $t_y$ , then whether what occurs during  $t_x$ - $t_y$  is only a journey from A to B rather than a journey from A to C or A to D can be determined only with reference to what occurs during an interval of time that extends after  $t_y$ , until such time as the event has come to completion. Similarly, the facts about what temporal entity is present to, and experienced by Lily, during  $t_5$ - $t_6$ , are not determined just by what went on through  $t_5$ - $t_6$ , considered independently of the relations of that interval to further times; specifically the further time at which the event is completed. Given that what event occurred from  $t_1$ - $t_{10}$  was, in fact, a walk of Isaac's from one side of the room to the other, then what Lily directly perceived during  $t_5$ - $t_6$ , a sub-interval of time in the middle of the walk, was not *merely* a temporal part or phase of a walk, but that very walk itself. So it is not a mere temporal part of an event that determines how things look during  $t_5$ - $t_6$ . Premise (3), that how things look to Lily from  $t_5$ - $t_6$  is the same in Case 1 and Case 2 will appear plausible only as long as the phenomenal character of experience from  $t_5$ - $t_6$  is taken to be something that can be fixed and determinate independently of how things unfold over a longer period of time of which  $t_5$ - $t_6$  is a sub-interval, and over which the relevant event comes to completion. But to take this to be so is a mistake. The character of a perceptual experience of what occurs over an interval of time, like the question of what itself occurs over that interval of time, cannot be determined in such 'temporal isolation'. Once these facts about how the direct perception of an event is made determinate are in view, the argument from (2) to (6) collapses. We do not have a good reason to reject the commonsense view that during  $t_5$ - $t_6$ , a perceiver directly perceives an event.

Each of these lines of argument raises many further questions, full discussion of which would go well beyond the space available to me here. For the purposes of what follows I want to raise a single general worry that seems to be a problem for both of these suggestions. Though each of these lines of response attempts to deal with the problem about the direct perception of events in a different way, there is a common assumption that appears to be reflected in both of these approaches. The common assumption is that the direct perception of an event over an interval of time is to be understood as the direct perception of a complete or a whole event, and that the question about whether events are directly perceived is the question whether complete or whole events are directly perceived. On the first approach, this is manifest in the claim that the walk is not perceived over the sub-interval  $t_5$ - $t_6$  but only over  $t_1$ - $t_{10}$ , that time during which the whole walk occurs, and in the claim that the direct perception of the walk over an interval of time requires the direct perception of each and every successive temporal part of that walk over that interval of time. On the second approach, though it is not denied that the walk that Isaac took is directly perceived during  $t_5$ - $t_6$ , the explanation for this is nevertheless that what went on over  $t_1$ - $t_{10}$  was the direct

perception of the complete walk that Isaac took from the wall to the sofa, and that  $t_5$ - $t_6$  is a sub-interval of the time over which the perception of such a complete event occurred. So on this approach, it appears to turn out that an event is directly perceived during  $t_5$ - $t_6$  because the direct perception of a complete event goes on during that time, even if the fact that the direct perception of a complete event goes on during that time is not manifest until such time as the event completes.

The worry is that this assumption does not seem obviously correct. In our ordinary thought and talk about the perception of events, at least, we distinguish between the perception of an event and the perception of a complete event, or the perception of the whole of an event. It is this conception of what it is to directly perceive an event that seems to underpin the commonsense conception of event perception that is articulated in (1). It may be, for example, that Isaac saw the changing of the guard from  $t_5$ - $t_6$  without seeing all of the changing of the guard, not only because his direct perception of some of the parts of that event came later than  $t_6$ , but because he never got to see the opening or final phases of that event at all. In this, and here I follow up on a theme with which I began, our ordinary talk about the direct perception of events appears to be no different from our ordinary talk about the direct perception of middle-sized space-filling material objects. We do not ordinarily seem to require that one directly perceives each and every part of the surface of a material object in order to see that object. So also, it seems, we do not ordinarily require one to directly perceive each and every successive temporal part of an event in order to directly perceive it. If these ideas are correct, then even if each of these approaches offers an account according to which it is possible for perceivers to directly perceive events, neither of the lines of thought discussed here enables us to preserve the commonsense conception of the direct perception of events that is given expression in (1); that during the relevant sub-interval of time, perceivers are capable of directly perceiving an event, but not a complete event.

But this worry may itself prompt a challenge about the credentials of this conception of the direct perception of events; that conception at work in (1). What exactly is it to directly perceive an event during  $t_5$ - $t_6$  without directly perceiving a complete event? And what resources are available, given such a conception of direct perception, for meeting the challenge provided by the argument of (2)-(4)? In the absence of any further argument or development, the suspicion may be that what it is to directly perceive an event without directly perceiving a complete event will turn out to be nothing more than directly perceiving a temporal part of an event, something which cannot be identified with the event itself.

It is significant that in the kinds of cases described, in which an event is putatively directly perceived during a sub-interval of time over which a complete event occurs, there is always available a description of the object of perception that makes reference to something going on, or being in progress, or being in course of development. Suppose Lily directly perceives the walk that Isaac took during  $t_5$ - $t_6$ , but not the complete walk. Then so also it seems that Lily directly perceives the walk that Isaac took unfolding, progressing, or being in the course of development during that time. When Lily perceives the walk that Isaac took but not the complete walk, what she directly perceives is not something finished or over—something 'dead' from the temporal point of view—but something ongoing. I want to use this feature of the direct perception of events as a clue to explore what grounds the commonsense conception of directly perceiving an event that is given expression in (1). It is this I take up in the next section.

### **3 Activity and the Perception of Activity**

One basic observation that can be made about the ideas discussed so far is that they draw on an insufficiently rich temporal ontology. Not everything that goes on in time is an event, or a temporal part of an event. This is an idea that was central to much discussion of time-

occupation in the literature in metaphysics and philosophy of language prior to Davidson, but with a few exceptions has been largely absent from the literature in analytical philosophy since the 1960s.<sup>12</sup>

To begin to bring the relevant temporal ontology into view, take the phenomenon of verb aspect. The imperfective or progressive verb aspect is that feature of verb predications that is possessed when what's picked out by the verb, in such a predication, can be an answer to the question: "What is he (she, or it) doing?" or the relevant tensed forms of such a question. "He was walking all morning" and "He is drawing as we speak" are both predications in which the verb has imperfective aspect. Predications of this kind present something in the process of going on or unfolding over time. Predications with the perfective aspect, for example, "He wrote an essay" or "He drew a picture of a cat" present something complete or finished. Even if they were not originally presented under the guise of features of aspect, phenomena of this kind were the starting point for important work by Zeno Vendler, Gilbert Ryle and Anthony Kenny.<sup>13</sup> There is now a highly developed literature in formal semantics that focuses on how to understand the nature of the distinction between imperfective and perfective verb aspect.<sup>14</sup> This is not something I am going to engage with here. I'm interested, rather, in some suggestive observations about imperfective predications that have surfaced in the literature in a number of places.

A number of writers, including Alexander Mourelatos, Barry Taylor and Emmon Bach, have noted that there are similarities between verbs with imperfective aspect and mass terms, like 'gold', 'clay' and 'water'.<sup>15</sup> Like these mass terms, verbs like 'walk' and 'draw', in the relevant imperfective predications (i.e. 'walking', 'drawing') cannot take plural forms, and nor can they be counted. Without changing the meaning of those terms, there cannot be two or three walking(s) or drawing(s), in the same way that there cannot be two gold(s) or clay(s). Like the referents of mass terms the referents of the verbs in these constructions can be mass quantified. In the same way that there can be some gold, or more gold, so there can be some walking and more walking. With verbs in these predicative uses, as with mass terms, it makes sense to ask only "How much?" not "How many?" Given these phenomena, we might just think that verbs in imperfective predications are themselves a kind of mass term, only with temporal, rather than spatial, form.

It is a mistake, I think, to assume that metaphysical claims can be simply read off the linguistic phenomena. In the absence of the space for more detailed discussion of these issues, let me say that I take these linguistic phenomena to be suggestive of a model for a

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<sup>12</sup> The idea that there is a distinction between 'events' on the one hand and 'processes' and 'activities' on the other is receiving increasing amounts of attention in the recent philosophical literature. See for example, Rowland Stout, 'Processes,' *Philosophy*, 72 (1997), pp.19-27, and 'The Life of a Process,' in Guy DeBrook (ed.) *Pragmatic Process Philosophy*, (Amsterdam, Rodopi, 2003); Helen Steward, *The Ontology of Mind: Events, Processes and States*, (Oxford, O.U.P., 1997) and 'Processes, Continuants and Individuals', *Mind*, 122 (2013), pp. 781- 812; Jennifer Hornsby, 'Actions and Activity', *Philosophical Issues*, 22 (2012), pp. 233- 245, and Thomas Crowther, 'The Matter of Events', *The Review of Metaphysics*, 65 (2011), pp. 3- 39.

<sup>13</sup> See Zeno Vendler, 'Verbs and Times,' in his *Linguistics and Philosophy*, (Ithaca, N.Y., Cornell University Press, 1967); Gilbert Ryle, *The Concept of Mind*, (London, Penguin, 1949), and Anthony Kenny, *Action, Emotion and Will*, (London, Routledge, 1963).

<sup>14</sup> For discussion of the formal semantics of verb aspect see David Dowty, *Word Meaning and Montague Grammar*, (Dordrecht, D. Reidel, 1979); Fred Landman, 'The Progressive,' *Natural Language Semantics* 1 (1992), pp. 1– 32, and Susan Rothstein, *Structuring Events: A Study in the Semantics of Lexical Aspect* (Oxford: Blackwell, 2004).

<sup>15</sup> See Alexander Mourelatos, 'Events, Processes and States', *Linguistics and Philosophy*, 2 (1978), pp. 415–34; Barry Taylor, 'Tense and Continuity', *Linguistics and Philosophy*, 1 (1977), pp. 199–220, and Emmon Bach, 'The Algebra of Events', *Linguistics and Philosophy*, 9 (1986), pp. 5–16.

temporal ontology at the core of which is a categorical difference between temporal stuff and temporal particulars that's analogous to the difference between spatial stuff and spatially bounded spatial particulars.<sup>16</sup>

Call what is picked out by an imperfective verb predication *activity*.<sup>17</sup> Running, walking and drawing are types of activity. On this view, activity is time-occupying temporal stuff analogous to space-occupying spatial stuff like gold or water. Like gold or water, temporal stuff such as running or drawing is not something bounded or complete. Running or walking can stop or terminate, but they cannot (at least without the introduction of an external goal) be finished, or over, though a run, or a walk, can be. In being bounded and complete temporal particulars, events, those things that have become the default category of time-occupier in the literature, are categorically distinct from activities. The journey I made from London to Reading this morning, for example, is a time-occupying particular. It is something that has temporal boundaries, the times at which it began and the time at which it ended. *Walking* along Fulham Palace Road and *travelling* on the train from Paddington, though, are not. They are both activities, which are temporal stuffs rather than temporal particulars.

The idea that reflection on the imperfective notions of activity or process might be able to help us to understand the relevant features of our experience of events is attractive. After all, in reflecting on how things seem to us when we putatively directly perceive events, what we find is that our perceptual environment appears to include something that can be specified imperfectively: someone walking, swimming, or running, for example. So perhaps what it is to directly perceive an event without directly perceiving all of an event can be understood somehow in terms of the notion of perceiving temporal stuff. The form of such an account might run along the following lines. To perceive a sub-interval of an event that is putatively perceived, a walk, say, is to perceive a walk unfolding or developing. To perceive a walk unfolding or developing involves the perception of some temporal stuff. The features of the perceptual situation that are captured by the idea that an imperfective specification always appears to be available in the relevant cases, then, is captured by the imperfective mode of existence of what is perceived in these cases.

But while there may be something attractive about this idea as a suggestion of where to look for a solution to such a difficulty, it is not clear exactly what the details of such an account would be. And different ways of understanding the notion of temporal stuff appear to create different difficulties for attempts to provide such an account.

### 3.1 Activity as type

One way to understand the notion of temporal stuff, such as *walking*, is that it is a type, a type of activity or a type of thing that someone or something can be engaged in doing. Types are entities that are inherently general, and of which there can be instances. It is standard to think of a type as an abstract entity; types are not concrete entities with spatio-temporal location, though where such types are types of spatio-temporal entity, then their instances possess such location. On this view, temporal stuff is something to be distinguished from temporal particulars, in the sense that it is something temporal, but abstract and general. If walking is a type of thing that someone can be engaged in doing, then for walking to be directly perceived over an interval of time is for a type of doing to be directly perceived over a period of time.

The difficulty here is that it is not at all clear that temporal stuff understood in this way is something that might plausibly be directly perceived. For something to be directly or immediately perceived is for that very thing to be responsible for how things look to one to

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<sup>16</sup> I offer more a detailed account of this temporal ontology in Crowther (2011).

<sup>17</sup> Some writers use 'process' to mark what is picked out by an imperfective verb predication. I comment on the substance of this below.

be. But it is not clear what it would be for an abstract, general, object, such as a type to be responsible for how it is that things look to one to be, in a way that could make it reasonable to take the type itself to be the direct or immediate object of perception. In any particular case in which it is putatively the type itself that is directly perceived, a more plausible hypothesis will be that some non-general thing, which is an instance of that type, is so responsible for how things look. There is no doubt more that can be said here, but I will take it that if we can, we ought to avoid a solution that is committed to the view that we can visually perceive abstract objects.

### 3.2 'Processes as continuants'

In recent research on the metaphysics of time-occupation which exploits the stuff-particular parallel across temporal and spatial notions, a number of writers, including Rowland Stout (2003), and Antony Galton and Ryuichi Mizoguchi (2009), have argued that as well as events, there are 'processes', and these processes are 'continuants'. The notion of a 'continuant process' affords a different way of developing these ideas about temporal ontology into a proposal about the relevant features of experiences of things in progress.<sup>18</sup>

Start here with the idea of a process. Stout (1997) and (2003) argues that processes, such as particular runnings and walkings, are temporal things which have a special connection to imperfective aspect; a connection he characterizes in terms of the idea that processes are things that can be '*happening*' (1997: 19). Processes, according to Stout, are temporal particulars. There is a distinction, Stout maintains, between such things as my running this morning and your running yesterday. In general we can distinguish, he says, between running, the type, and particular runnings, which are tokens of the type. (1997: 21) Stout appears to understand activity or temporal stuff as an abstract type (as it was understood in (i)). Particular runnings he takes to be instances of this type. (2003: 150-5) Though processes are not to be identified with activity, process inherits aspects of the temporally stuff-like character of activity, and these aspects of its character are at the heart of the distinction between processes and events, and the distinctive status of processes.

Stout (1997) and (2003) grounds the distinction between processes and events in a number of ways. First, he maintains that events are not "things that can be happening"; they are "gone over" things, things which are finished or completed (2003: 150). Second, events are things that exist, where they do, over periods of time, and which possess temporal parts which exist successively over those periods of time. (1997: 24- 26) Processes, on the other hand, he claims, are "continuants". They are things which do not possess temporal parts but which are 'wholly present' at any time at which they exist; that is, they exist in the way that material objects are taken to exist on an endurantist ontology. He says: "What is happening at any moment during a process is a whole process, not just part of it. The claim that what is present at any moment is not the whole process but only a process part is as bad as the parallel claim that an object as a whole is not present at any one moment..." (1997: 25-6).

Stout (2003) and Galton and Mizoguchi (2009) offer a number of different arguments for the view of processes as continuant particulars. The central argument for the view (see, for example, Galton and Mizoguchi (2009: 7- 10)) is that the notion of a continuant process is needed to account for certain kinds of change. Suppose that at time  $t_1$  there is running going on at 9km/h and at a later time,  $t_2$ , there is running going on at 10km/h. Some change has

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<sup>18</sup> In conversation, Stout has affirmed that he conceives an important role for continuant processes in the philosophy of perception. As of the time of writing, Stout's discussion of these further issues is not in print. I note that I do not imply that the way that I develop the view that continuant processes can be perceived is the only way that such an idea could be developed, nor is it necessarily the way that those who have taken processes to be continuants would ultimately want the view to be developed.

occurred between  $t_1$  and  $t_2$ . The change cannot be a change in an event, it is argued, for events do not change (they only exhibit ‘variation’; differences in the properties that they possess at different temporal locations). Events are things that where they exist, are finished or complete, so not capable of changing. The change cannot be a change in the runner, it is then claimed, because the runner does not change from ‘going on at 9km/h’ to ‘going on at 10km/h’. A runner is not something that can be going on. Therefore, the argument runs, we should think that the change in question is a change in a particular process, some particular running, that was present at  $t_1$  and continued to exist through a change in its properties over that period of time. Processes can be the subjects of genuine change over a period of time. Only this view can explain the occurrence of the relevant kind of change.

In the light of this account, it might be suggested that what it is for one to directly perceive an event unfolding or in progress, say, to directly perceive Isaac’s walk unfolding, is for one to directly perceive a particular continuant process—some particular token of walking-stuff—persisting across a period of time.

This suggestion raises interesting questions than I cannot resolve wholly satisfactorily here. But there are sufficiently many difficulties with the notion of a continuant process to warrant us looking elsewhere for a solution. The argument that the notion of a continuant process is needed to explain a certain kind of change—the kind of change involved in acceleration, for example—is not immediately convincing. The most natural explanation for this kind of change is not that it is a change in any particular continuant process of running, but that it is a change in the agent of an activity; the change, say, from his having the property [runs at 9km/h] at  $t_1$  to his having the property [runs at 10km/h] at  $t_2$ . This explanation does not commit one to the existence of any other continuant but the agent of the activity. Neither is it obvious how the suggestion that continuant processes can be the subjects of genuine change is to be understood. A familiar picture of change grounds the existence of change in the actualizing of a capacity or of a power in the object that changes, a capacity that persists through the actualizing of the change. The existence of such capacities appears to at least causally depend on some enduring material or categorical basis. But it is not clear what it could be for a process itself—some running or walking—to possess a capacity to change, nor what the categorical basis of such a capacity for change in a process might be. Further, even if some distinction does need to be drawn between the notion of a process and an event, there are general difficulties that attach to the way that partisans of continuant processes attempt to distinguish between processes and events. Stout (1997), as I noted above, distinguishes between processes and events by saying that processes are things that ‘can be happening’ while events are things that are only finished or ‘gone over’. But this is not at all obvious; surely the very Easter Egg hunt that was finished and gone over by  $t$  will also have been the very same thing that *was happening* before  $t$ .<sup>19</sup>

### 3.3 Activity, agents and the constitution of events

Here is a different suggestion about how to draw on the notion of temporal stuff in explanation of the relevant cases of the direct perception of events. To directly perceive an event, in the kinds of cases described, is to directly perceive an event unfolding or progressing. To perceive an event unfolding during a sub-interval of time is to perceive a

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<sup>19</sup> For a similar worry about Stout’s distinction between process and events see Steward (2013). One way of putting the worry is that the notion of ‘what is happening’ doesn’t determine the imperfective as adequately as ‘what can be an answer to the question: “What is O doing?” which derives from the work of Vendler (1967). I develop these arguments in more detail elsewhere.

subject or agent of activity exercising capacities for activity.<sup>20</sup> In the primary kind of case, involving an agent exercising a capacity for activity, what is directly perceived is *an agent engaging in activity* during that sub-interval. For example, to directly perceive the walk that Isaac took unfolding over a period of time is to directly perceive Isaac walking over that time. Likewise, to directly perceive the event which is Lily's watching of Isaac walking over a period of time is to directly perceive Lily watching Isaac over that period of time. The connection between Isaac walking and the unfolding walk is the relation of composition, or constitution. The event that is Isaac's walk from one side of the room to the other is composed of Isaac walking. For one to directly perceive an event unfolding over a period of time is, then, on this view, for one to directly perceive what an event is constituted from over that period of time.

How to understand the notion of constitution is a matter of intense philosophical dispute.<sup>21</sup> A fully satisfying development of this proposal would involve the elaboration and defence of a way of understanding the notion of constitution that is best suited to this explanatory work in the philosophy of perception. Here I can offer only a few brief remarks. Different conceptions of the constitution relation reflect different basic conceptions of what stuff or 'matter' is. One traditional role played by the notion of space-occupying stuff is that it is a kind of space-filler; something that fills up or takes up space.<sup>22</sup> A correlative conception of activity is that it is a kind of temporal filler. Events are concrete temporal particulars that have beginnings and endings in time. Activity is what constitutes events in that it is that which takes up or fills out the regions or the intervals of time occupied by events. Perhaps it is a part of our commonsense conception of filler that filler plays an exclusive function; that if something is filled with something it cannot be filled with anything distinct. But we can at least understand the notion of filler independently of any such commitment, and this is how I propose we should take it. I take two things to be definitive of the notion of filler as it figures here. First, filler has the function of filling, that's to say, filler, in its characteristic function can be contrasted with emptiness; the emptiness of a region or space or time, as the case may be. Second, filler is present, wherever it is, in a distinctive way, by being *spread out* or *spread over*, the regions through which it is present. In a similar way to the way in which stuffs like clay and gold are present throughout regions of space, if there is activity, say, there is someone walking, at some temporal location, *t*, then there must be someone walking throughout an interval of time that *t* falls within. Further, if there is someone walking throughout an interval of time *t*<sub>1</sub>-*t*<sub>10</sub>, then there is someone walking throughout any sub-interval of that time. The proposal, then, is that directly perceiving an event—say, Isaac's walk unfolding—is to directly perceive an agent engaging in activity; Isaac walking. To directly perceive Isaac walking is to directly perceive what Isaac's walk is constituted from. Isaac walking is what constitutes some particular walk in the sense that that is what fills out or takes up the region of time that the walk occupies and unfolds over. So directly perceiving what Isaac's walk is constituted from is to directly perceive what fills out or takes up the region of time that the walk occupies; him walking.

Where an event like the particular walk that Isaac took from one side of the room to the other is constituted of Isaac walking, what the event is constituted from has spatial and

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<sup>20</sup> Here I understand the idea of exercising a capacity for activity broadly. In this broad sense the passive exercise of a capacity to be changed by something involves the exercise of a capacity for activity. It is a matter for further discussion whether there are philosophically significant distinctions between the perception of passive and active exercises of capacities.

<sup>21</sup> See Michael Rea, (ed) *Material Constitution: A Reader*, (Lanham, MA, Rowman and Littlefield, 1997).

<sup>22</sup> For discussion of space-filler see Roberto Casati and Achille Varzi, *Holes and Other Superficialities*, (Cambridge, Mass., M.I.T. Press, 1995), particularly chapter 5.

temporal location. So Isaac walking from one side of the room to the other, by contrast with the first suggestion about activity made in this section, is not a type, at least where that is understood as its being something abstract and non-spatio-temporal that is capable of being multiply instantiated. If previously there was a worry about how something abstract and non-spatio-temporal could be perceived, that is not a worry that impacts on this proposal about the objects of perception in the relevant cases. However, even if what constitutes the event in question cannot be identified with activity as type, then neither can it be identified with activity as token, where that has the sense of a ‘continuant process’ as discussed above; a particular which, like a material object for the endurantist, persists over time and is capable of being the subject of genuine change. If a walk that Isaac took is constituted of Isaac walking at velocity  $v$  from  $t_1$ - $t_2$  and Isaac walking at velocity  $v^*$  from  $t_2$ - $t_3$ , that is not, on this view, for a temporal particular—‘Isaac’s walking’—to have changed. According to the current proposal, there is variation in the event which is the walk, with respect to what it is constituted from, at two different times. There is genuine change, on this view, only in Isaac; with respect to how he is exercising his capacity to walk across that interval of time. This way of developing the suggestion that the direct perception of an event unfolding involves the direct perception of temporal stuff at least does not appear to be subject to the difficulties that emerged for the ideas sketched out previously.

So also, on this approach, aspects of the suggestions pursued in section 2 can be conceded. Where a perceiver putatively directly perceives an event unfolding from  $t_x$ - $t_y$  it is true that there are aspects of such perception of an event that are not determinate independently of what may go on over an interval of time of which  $t_x$ - $t_y$  is a sub-interval. One who directly perceives an event unfolding does, after all, directly perceive an event. And certain facts about the identity of that event, such as whether what is perceived is a walk that Isaac took, that lasted from  $t_1$ - $t_{10}$  and went from the wall to the sofa, or a walk that he took only from  $t_1$ - $t_7$ , which ended with a fall at the edge of the carpet, and which was then followed by sitting on the floor from  $t_8$ - $t_{10}$ , are only determinate given how things in fact do unfold over  $t_1$ - $t_{10}$ . But that concession is consistent with the claim that what is directly perceived from  $t_x$ - $t_y$  is an event, a temporal particular, and, moreover, some particular type of event; a walk that Isaac took. That is determined given that what is directly perceived from  $t_x$ - $t_y$  is Isaac walking, and given that him walking is what constitutes the walk he took, no matter what the specific facts about that particular walk might turn out to be.

I emphasize that an account of this type does not entail that over the relevant sub-interval, the perceiver does not directly perceive a temporal part of an event. Let me return to the original problem to explain why. The opening thought, (1), was that during the relevant sub-interval of time, in the relevant kind of case, an event is directly perceived, but not all of an event. Then the argument from (2)-(6) purported to show that the direct object of perception in such a case is a temporal part of an event, rather than an event itself. The general suggestion I have made here is that what it is to directly perceive an event but not all of an event is to directly perceive an event unfolding. One way to understand what it is to perceive a temporal part of an event—say, the phase of some event that occurs from  $t_5$ - $t_6$ —in terms of the present account, is that it is to directly perceive an event unfolding from  $t_5$ - $t_6$ .<sup>23</sup> If this is true, then premise (5) of the argument in question is false. A temporal part of an event understood in this way—that is, as ‘an event unfolding from  $t_5$ - $t_6$ ’—is an event. It is just an

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<sup>23</sup> There are a number of different ways to understand what it is to perceive a temporal part in terms of the present account. Another thought here might be that to perceive a temporal part of an event could be understood simply as directly perceiving the agent engaging in activity over the relevant interval of time. I do not have the space to discuss these issues here.

event which is not yet complete. What I have then offered here is a further explanation of what such a notion involves. To directly perceive an event unfolding from  $t_5$ - $t_6$  is to directly perceive an agent engaging in activity over that interval of time. I have further suggested that we can think of an agent engaging in activity as what the event that occurs over the relevant period of time is constituted from.

#### 4 Conclusion

I began with a puzzle about the nature of our direct perception of events, a puzzle that emerges given a Davidsonian ontology in which events are temporal particulars, and given some further assumptions about what is required for direct perception. After briefly canvassing and rejecting some initial responses to this problem I suggested the idea that to directly perceive an event, but not a complete event, is to directly perceive an event unfolding or progressing over time. In an attempt to illuminate this notion, I turned to a discussion of the different ways that things occupy periods of time, and to the notion of a temporal analogue of the distinction between stuff and particulars. The result of this discussion has been the identification of a further suggestion. I have tried to argue that this suggestion does not suffer from some of the difficulties that affect other attempts to engage an enlarged temporal ontology in the service of the philosophy of perception.

I have only had the time here to offer the briefest of developments of this proposal. There are a number of different issues that a fully satisfactory defence of these ideas would need to engage with, and I end by sketching out some of the issues for further research. One issue concerns the relation between events and agents. On the approach just sketched out, to perceive an event unfolding is to perceive an agent engaging in activity. That involves a commitment to the view that any event which is perceptible has an agent. That is something that might be, and has been, denied. Addressing this issue is something for another occasion, though my view is that there are no clear examples of agentless activity. The account briefly developed here exploits the suggestion that events are constituted from temporal stuff, and that the notion of temporal stuff is to be understood in terms of the notion of temporal filler; that is, something that fills out or takes up a region of time. But how exactly is such a notion of temporal filler to be understood? Can the notion of filler really be understood independently of the notion of exclusion (that which is manifested in the spatial case as solidity)? If not, the fact that many events can unfold across the same interval of time will be a difficulty for this view. These are questions I attempt to answer elsewhere.<sup>24</sup> A third question concerns the relation between these reflections on the objects of perception and the phenomenal character of the perception of events. The problem on which the paper centres concerns how the phenomenology of certain conscious perceptual episodes which putatively take events for their objects is to be explained. I have tried to argue that it is false that these phenomenological considerations show that we do not directly perceive events. This leaves a number of questions about the relation between the phenomenology of such episodes and the objects of such episodes open. I have said that it leaves open the issue between naïve realism and the intentionalist theory of perception. But it also leaves open certain questions about the ‘transparency’ of such experiences. For example, even if events can be directly perceived, it may nevertheless be that not all aspects of the conscious character of the perception of things in time can be explained in terms of such temporal objects of perception and how such objects look to one to be.<sup>25</sup>

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<sup>24</sup> I address this question in “Activity Unbound” (in preparation).

<sup>25</sup> Soteriou (2011), and Soteriou (2013) chapters 4 and 5 develops the view that our conscious perceptual experience of things in time is structured by our awareness of an interval of time in which things are

The hope is that the detailed development of this proposal in these directions will not only shed more light on our understanding of the experience of things in time, but will contribute to the wider project of understanding the links between the category of stuff and the various ways in which stuff-like notions figure in characterizing our perceptual experience of the world.

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experienced as having temporal location. Such an interval of time is not a direct object of perception, at least in the way that those things experienced as temporally located within such an interval are. Soteriou's discussion offers a particularly sophisticated and interesting example of the possibility alluded to here.