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Verbs, Times and Objects¹

“Thus there is no one big mystery with regard to seeing, although little puzzles remain as to *observing*, *watching*, and so forth. One could point out, for example, that while they are activities, they sometimes have—and this is true more of *observing* than *watching*—an accomplishment sense: it takes some time to observe the passage of Venus across the sun or to watch an ant carrying home a dead fly. There are obvious parallels between the concepts of seeing and hearing and those of watching and listening, and so on. Thus we could continue this kind of investigation, but without any specific problem it would become tedious and idle.” (Vendler (1967), p.120)

I am writing in the 60th year since the first publication of Zeno Vendler’s celebrated paper ‘Verbs and Times’, and a half-century after the publication of the canonical version of the text in the 1967 collection of Vendler papers titled *Linguistics in Philosophy*. In his paper, Vendler articulates a distinction between four verb types, a distinction that has its source in their temporal characteristics (their ‘temporal schemas’), and he sets this distinction to work on families of epistemic, cognitive and perceptual verbs. The paper is one of the recognized classics of 20th century analytic philosophy. Vendler’s discussion generated a subject-matter for a new field within the developing discipline of formal semantics.² And the verb typology he developed set an agenda for subsequent research in the philosophy of mind and action.³ But it is not straightforward to identify the source of the paper’s enduring influence and significance. The interest of the paper does not stem from the fact that Vendler introduced an entirely novel typology of verbs, nor that he was wholly original in applying such distinctions to epistemic, cognitive and perceptual verb

¹ Material from this paper has been presented in talks at the University of Warwick, King’s College, London, the University of Cambridge and the University of Chicago. Thanks to the audiences on those occasions. I am grateful to Jack Shardlow, Tristan Kreetz, Bill Brewer, Christoph Hoerl and Michael Kremer for helpful comments. Thanks to Ian Phillips, Hemdat Lerman, Guy Longworth and Rowland Stout for very helpful written comments on earlier drafts of this material. I owe particular thanks to Matthew Soteriou for very helpful discussions about ideas in this paper.

² For work in formal semantics that is shaped by Vendler’s verb typology and the research questions it focuses, see Dowty (1979), Taylor (1985), Bach (1986), Verkuyl (1993) and Rothstein (2004). Mourelatos (1978) includes influential criticisms of Vendler (1967) and attempts to develop an ontology of process that nevertheless develops many ideas from his work.

³ For work in the philosophy of mind and action that includes discussion of Vendler (1967), and exploits an ontology that develops Vendler’s discussion see Steward (1997), Thompson (2008), Crowther (2009), Soteriou (2013), and Hornsby (2012).

constructions. Vendler's verb typology, and his discussions of the applications of verbs across a range of cases largely inherit the structure, and much of the substance, of the discussion in Gilbert Ryle (1949) and (1954).⁴ Neither does the importance of the paper reside merely in the kinds of criticisms that Vendler offers of Ryle's view of perceptual verbs. Those criticisms result in a modification rather than an outright rejection of Ryle's view, and they raise more questions than they answer. It is true that the upshot of Vendler's discussion of the temporal characteristics of verb forms is a catholic attitude towards perceptual verb forms that is original in the literature. But this feature of the paper does not seem to have occasioned much discussion. So it is unlikely that this in itself is the source of the influence and appeal of the work either.

Rather, at least so I suggest, what distinguishes Vendler's discussion is that observations he makes during the course of the paper allow questions about the relation between perceptual states and occurrences and their objects to be seen clearly for the first time.⁵ It is a question of this kind that is the focus of this paper. Take transitive verb phrases such as "believes that Aristotle was born in Stagira" or "hears the sound of the drill." These phrases are complexes that consist of a verb ("believes ____" and "hears ____") combined with a grammatical object ("that Aristotle was born in Stagira" and "the sound of the drill"). Remarks such as those made by Vendler in the opening epigram suggest that in some perceptual verb phrases there appears to be a match between the temporal properties of that which the verb object picks out and that which the verb phrase as a whole picks out. For example, observing the passage of Venus across the sun is a kind of occurrence that does not merely *go on* for a period of time (like walking or running) but *takes* some amount of time (like walking to the shops or running a mile). In this case it is also notable that what is observed—the passage of Venus across the sun—is itself something that *takes* some amount of time, rather than something that merely *goes on* for some amount of time. How widespread is such matching between the temporal properties of that which perceptual verbs and their objects pick out? And with respect to which temporal properties of verbs and their objects is there such a match?

⁴ For related discussion see also Sibley (1955).

⁵ It is also worth registering the thought that it is at least part of the truth that Vendler's approach to these verb forms is systematic and putatively exhaustive in a way that Ryle's piecemeal approach—an approach rooted in what he needs for his polemical purposes in the relevant works—is not. Thanks to Michael Kremer here.

In this paper I aim to develop and briefly defend the suggestion that there is a limited match between such temporal properties of perceptual verbs and their objects. The perception of temporally-extended events and processes seems to involve the sharing of a distinctive range of temporal properties between verbs and their objects. But there is no such match when the objects of perceptual verbs are primary substances—three-dimensional concrete particulars such as human beings, palm trees and peregrine falcons—things that seem to persist across intervals of time by enduring not by occurring.

Section one spells out Vendler's verb typology and outlines the way that he applies that typology to notions of perception and the perceptual. Section two introduces in more detail some of the different observations that Vendler makes during the course of the paper that suggest that there might be a match between certain temporal characteristics of perceptual verbs and their objects. This section goes on to identify a number of questions about the existence and nature of such temporal matching that Vendler's discussion may prompt, just one of which is the focus here. Section three identifies and rejects a simple proposal about the existence and extent of this matching. Section four develops the suggestion that there is temporal matching between some of the temporal properties of the objects of perception, but not others. Section five identifies some responses to this proposal, and provides some replies. Section six concludes by noting some of the consequences of the discussion for contemporary debates about the temporal properties of perception, and makes a suggestion about how research on the outstanding question identified in section two might proceed.

First, some assumptions. Vendler's temporal distinctions are primarily formulated as distinctions between kinds of 'terms' or 'verbs' with respect to their temporal features. But as well as talking about episodic verbs and their features, Vendler also uses those verbs in talking directly about kinds of episodes and their features. So, he characterizes "watches" as an "activity-verb" and seems to take this to allow us to characterize watching as an activity. This assumption, and the pattern of expression that manifests it, runs right through the Vendler paper that is the target of discussion here, and right through all of those papers of his that are collected together in the 1967 volume *Linguistics in Philosophy*.

This raises delicate questions about philosophical methodology. Addressing those questions would take us too far from the substance of what I want to discuss.⁶ In what follows, I will present Vendler's account as one centred on terms and verb types. I assume that Vendler's enquiry can be thought of as a broadly 'conceptual' enquiry, and not merely as narrowly focussed on contingent features of the English language. Further, like Vendler, I will talk not only about verbs, grammatical objects and their temporal features but mental states and occurrences, their objects, and their temporal features. I assume that here the subject-matter of our enquiry is temporal reality itself, but that we can proceed by examining the structure and content of our conceptions of temporal reality.

Second, the aim here is to build up a picture of the temporal reality of states, events and their objects through examining how perceptual awareness and its objects strike us from the standpoint of first-person reflection. Therefore the 'temporal properties' relevant to this study are 'manifest' temporal properties. Manifest temporal properties are properties capable of revealing themselves as the properties they are from the standpoint of first-person reflection, unaided by inference. For example, that one's reading of this sentence lasted just a very few moments is a manifest temporal property of one's reading. But that one's reading this sentence causally depended on neurological activity involving electrical pulses of a particular temporal frequency is not a manifest temporal property of one's reading. It is temporal properties of the former kind that are relevant to this enquiry.

1. Vendler's verb typology and the varieties of the perceptual

In the first part of 'Verbs and Times' a fourfold distinction between verb types is offered, between 'activity' (or 'process') verbs, 'accomplishment' verbs, 'achievement' verbs, and 'state' verbs. The typology is built up in a few steps. First, Vendler says that there is a basic distinction between those verbs that accept what he calls 'continuous tenses' and those that do not. Vendler (1967) says that the question "What are you doing?" can be answered by "I am walking" or "I am drawing" but not "I am knowing" or "I am believing". "Knows" and "believes" are examples of state verbs. They single out states, which are things that may obtain over time but do not go on in time or occur in time. By

⁶ For some of Vendler's own reflections on these issues of method, see Vendler (1967, essay 1). For discussion of philosophical method in Cook Wilson and Austin that is relevant to these issues see (Longworth, forthcoming).

contrast, he says “I am walking” and “I am drawing” appear to single out “processes going on in time, that is, roughly, that they consist of successive phases following one another in time”. (1967, 99).

With respect to the category of verbs that admit of continuous tenses—those that can be given in answer to the question: “What are you doing?”—there is a distinction between “activity terms” and “accomplishment terms.” Accomplishments (e.g. “walking to the shops”, “running a mile”) are kinds of process that proceed to a set terminal point at which they cease and which function as a criterion of success of completion for the accomplishment. Activities (e.g. “walking”, “running”) are processes that lack such points. In vocabulary that reflects the ancient origins of the distinction, the notion of activity is the notion of atelic process, the notion of accomplishment the notion of telic process, with the notion of telicity signifying the idea of an achievement that is a criterion of success or fulfilment for the process that unfolds. The difference between activities and accomplishments seems to be reflected in a range of differences in the temporal behaviour of the relevant notions. If someone stops walking (which is atelic process) then it follows that they did walk, but if someone stops walking to the shops (telic process) it does not follow that they did walk to the shops. Accomplishments take time, and they can properly be said to finish, given that there are points determined by the nature of the occurrence at which they are complete. Activities go on for periods of time, but given that they lack telic points they do not take time, and they cannot properly be said to finish. Vendler (1967) also says that “activity terms” are homogeneous in a way that accomplishments are not. In case I write a letter in an hour, I have not written the letter in any sub-interval of that hour. But if I was running for an hour, then I have run during every sub-interval of that hour.

The category of those verbs that do not admit of continuous tenses admits of a further distinction, between those verbs that may indicate relations to intervals of time and those that are notions of instantaneous occurrences. “State terms” single out what may obtain for intervals of time. “Achievement” terms (e.g. “reach the summit”, “cross the finish line”, “stopping running”) however, are used to predicate instantaneous occurrence, what occurs but does not occur over intervals of time. Apparent uses of achievement terms in continuous or progressive constructions (e.g. “the train was stopping for about a quarter of a mile”, “they were reaching the summit over the course of three hours”) can be recast as accomplishment terms that pick out telic processes (“a train braking to a standstill”,

“mountaineers making the final push for the summit”) in which achievements function as telic points.

In the later parts of the paper, Vendler shows how these distinctions between verb types can be put to work to help us get a clearer sense of the temporal characteristics of cognitive and perceptual notions. It is perception and perceptual verbs that we’ll focus on here. The background to this part of the paper is the discussion offered by Gilbert Ryle, in chapters 5 and 7 of the *Concept of Mind* and in chapter 7 of *Dilemmas*. In these discussions, Ryle argues that it is a mistake to ask what kind of state or process perception or seeing is, and whether it is physical or psychological. He says that seeing isn’t any kind of state or process at all. Ryle says that we should think of perception or “sees” as a kind of ‘success verb’, to be understood by analogy with such verbs as “find” or “win”, and contrasted with ‘search’ or ‘task’ verbs such as hunt or look for. Seeing, like finding and winning, are occurrences, but they do not take any time at all. They are instantaneous events. “Sees” is a perceptual ‘achievement-verb’.

Vendler agrees with Ryle (1949, 1953) in so far as he thinks that some of our talk about perception is talk of a perceptual achievement. When we talk in terms of “spotting”, “noticing” and “recognizing” we are talking in terms of an event or an occurrence, but that lacks temporal duration. We can’t ask “How long did you notice that for?” or “How long did you spot that bird for?” So these kinds of uses reveal a perceptual achievement, which he calls the notion of “seeing as spotting”.

But Vendler thinks it is a mistake to think that perception and specifically “sees” is only the notion of an achievement. For example, he notes (1967, 113) that a perfectly suitable answer to the question: “How long did you see the killer?” is “Oh, I am quite tall, I saw him all the time he was in the courtroom. I was watching him”. In this completely standard kind of exchange, “see” doesn’t pick out an achievement, or something that exists only at an instant, but something that is in existence over an interval of time. So then, if there is a notion of seeing or of perception, according to which seeing is not instantaneous, should we take that notion to be that of a state, which can obtain over an interval, or some kind of process or accomplishment? Here Vendler argues by elimination. “Seeing” as it is understood in such sentences, cannot be a process verb or an accomplishment verb, because it can’t occur in what he calls ‘the continuous tense’.

Vendler (1967) claims that: “I am seeing such and such” can never be an answer to the question: “What are you doing?” It follows that the notion of seeing manifest in such talk is the notion of a state, rather than an achievement, activity or accomplishment.

Even if “seeing” or “perceiving” are not process or accomplishment verbs, there are notions of perceptual processes or activities. One of the distinctive features of Vendler’s paper is the attention he pays to notions that have gone by and large neglected in the literature in philosophy of mind. In this category fall such notions as ‘watching’, ‘looking at’, ‘observing’, ‘scrutinizing’, ‘looking for’ and ‘watching out for’.⁷ Watching or looking at things are things that one can be said to be doing, that is, they take the continuous tense by Vendler’s lights. So they can be distinguished both from perceptual states and achievements. As in the broader category of processes, we seem to be able to distinguish a class of verbs that are verbs of ‘perceptual activity’, and have the atelic form characteristic of activity according to Vendler’s account, and a class of ‘perceptual accomplishment’ verbs. While we think that watching or looking at things can go on for periods of time rather than take time, and do not have a telic point or achievement at which they aim, we might contrast this with such activities as watching the bird fly from one side of the field to the other. Watching the bird fly from one side of the field to the other is a perceptual activity that unfolds towards a point of completion, a visual achievement of some kind, at which it can be said to finish.

So, the conclusion of the application of Vendler’s verb typology to perceptual verbs is not that our conceptions of perception and the perceptual instantiate a single temporal category. We can distinguish different relations to time across different perceptual constructions and thus differentiate between various perceptual categories. The question: “Into what temporal category does the perceptual fall?” should be rejected as it stands.

2. Questions about verbs and times

As I have presented it so far, what Vendler offers in his paper is a verb typology that refines and elaborates some distinctions that Ryle had drawn, and applies these distinctions to perception in a way that involves rejecting Ryle’s idea that perception

⁷ For discussion of perceptual activities such as watching and looking see O’Shaughnessy (2000), Crowther (2009), Soteriou (2013) and Kalderon (2017).

cannot be a state. But what is original in the discussion in Vendler (1967) that explains its place in the development of research on the temporal aspects of mind? Here is a suggestion. In the course of the discussion over the last few pages of the paper, Vendler makes a number of observations that suggest that where we have a perceptual verb phrase in which a perceptual verb takes some grammatical object, there is an intimate connection between the temporal properties of the verb and the temporal properties of its object.⁸ For example, he says:

“If one tells us that he saw *Carmen* last night, he means that he saw all four acts of *Carmen*. Besides, he might say that it took three hours to see *Carmen*. Perhaps one might even answer the question *What are you doing?* by *I am seeing Carmen on TV.*” (1967, 119-120)

First off, it is worth noting that it is not clear that this opening claim about what it means to say one saw *Carmen* last night reflects some quite general truth about the perception of occurrences over time. I might tell you that I saw the Trooping of the Colour without, it seems to me, implying that I saw every successive part of it. Nevertheless, it is plausible that contexts in which we talk about seeing artistic performances characteristically involve a commitment to the idea that we have seen each temporal part of the performance. In any case, let's assume that this implication holds in the present case. What is of particular interest here, I think, is something else. The object of the construction: “I am seeing *Carmen* on TV” is, it seems, an accomplishment, the performing of *Carmen*. It is something that can be going on in time, but which takes time. If for whatever reason the singers on stage stop performing *Carmen* it does not follow that they have performed it (in the way that it follows from the fact that they stop singing that they have sung). But so also does “seeing”, in this construction, seem to be an accomplishment notion. As Vendler notes, in this sense of “see” one might say that it took one three hours to see *Carmen* (as one might say that it took one an hour to write a letter). So, in this case, the Vendler verb category (call it the ‘aspectual category’) of the verb object and the complex verb phrase seem to coincide.

⁸ Though Ryle (1949) discusses verbs with grammatical objects—for example, at (1949, 130-147)—he fails to note that there are questions that can be raised about the relation between the temporal characteristics of the whole verb phrase and the verb object.

A little later, he writes:

“One could point out that while (observing, watching) are activities, they sometimes have—and this is true more of *observing* than of *watching*—an accomplishment sense: it takes some time to observe the passage of Venus across the sun or to watch an ant carrying home a dead fly.” (1967, 120)

An ant carrying home a dead fly is an accomplishment. If an ant stops carrying home a dead fly (for whatever reason) then it does not follow that it did carry a dead fly home. But so also is one’s watching of the ant carrying home a dead fly an accomplishment. If one stops watching the ant carrying home a dead fly it does not follow that one did watch the ant carry a dead fly home (though it does follow that the ant has been carrying home a dead fly and one had been watching an ant carrying home a dead fly). Again, the aspectual category of the object of the verb is shared by the complex verb construction.

Earlier in the paper, Vendler has noted the difficulty of making good sense of the following expressions:

- (1) *I spotted him cross the street
- (2) *I spotted him run

With the previous remarks in mind, one might observe that a feature of these sentences is the difficulty of seeing them as cases in which the temporal category of the verb object is shared by the whole verb phrase. “Crossing the street” and “run” are kinds of process terms (the first an ‘accomplishment’ term and the second an ‘activity’ term). Were this category to be shared by the verb phrase, then that phrase as a whole would be an activity or an accomplishment. But it is hard to make sense of it as either. That would require us to be able to make sense of “spotting something” as something that goes on in time. But we can’t. Spotting something is an instantaneous occurrence. So perhaps the difficulty of making good sense of these expressions is a manifestation of the fact that in complex perceptual verb phrases the temporal characteristics of the verb object and the verb phrase are shared.

What examples like these might seem to suggest is that there is some kind of match between the temporal properties of verbs and the temporal properties of their objects. The examples prompt us to focus attention on the relations between the temporal characteristics of verbs and their objects, and on the idea that there might be systematic relations between these properties.⁹ For a reader who is struck by the profound insight and interest of these observations, Vendler's apparently casual attitude to them, as evidenced in our opening epigram, is extraordinary.

In any case, to ensure that our continued investigations are neither tedious nor idle, let us identify two questions to focus discussion of these issues:

Q1. In verb phrases involving a perceptual verb and a grammatical object, is there sharing of temporal properties of the complex perceptual verb and the verb object? If so, which properties, precisely, are shared? In less 'linguistic' form, we might ask, where some perceptual state or occurrence has an object, is there coincidence in the temporal properties of the states or occurrences and their objects? If so, which temporal properties are shared?

Q2. If there is sharing of such temporal properties, what, if anything, is the significance of this? How is this match to be explained?

The first of these questions is philosophically primary, and will be the focus of discussion in what follows. Question 2 I will take up elsewhere. But in advance of that discussion, it is worth noting some of the possibilities. If we set aside the possibility that the match is a mere accident, then the temporal characteristics of the perceptual verb phrase might be determined wholly by temporal features of the verb object, wholly by properties of the perceptual verb, or determined by some combination of features of the verb and verb object. It is also worth noting that there may be different explanations for the sharing of different temporal properties.

⁹ It was the insight of these observations, I suggest, that prompted a generation of researchers in the infant discipline of formal semantics to turn their attentions towards attempts to understand the relationship between temporal properties of verb objects and verb phrases. For a contribution to these questions, as well as an overview of post-Vendler developments in the formal semantics of verb aspect grounded in a discussion of features of the framework suggested in his paper, see Rothstein (2004).

3. A simple proposal identified and rejected

Here is one simple suggestion about how to answer our question: what the observations identified from Vendler's paper show is that there is a quite general coincidence of the aspectual categories to which the verb object and the complex verb phrase belong. One might support such a claim by drawing attention to further cases of apparent match between the aspectual categories of verb phrases and objects. Take:

(3) Isaac saw Beatrice cross the finish line

Suppose we take the object in (3) to be an achievement, an instantaneous occurrence that caps a period of activity, and not something that goes on over time. Then it seems these properties are reflected in the properties of the 'seeing'. It does not make sense to ask how long it took Isaac to see Beatrice cross the finish line. That might be taken to show that Isaac's visual perception of that achievement is itself an achievement, therefore, an instance of seeing as 'spotting'.

Elaborating on the example of congruence between verb phrases and objects with respect to the category of accomplishments it seems that there are also related cases involving activities:

(4) Beatrice is watching Venus moving

(5) Lily is watching the ant carrying a dead fly

The thought may be that in these cases, the verb objects are movement and carriage of a dead fly. Moving and carrying a dead fly are activities, rather than accomplishments. If something stops moving it did move. And if something stops carrying a dead fly it did carry a dead fly. But then, it will be noted, so also do we see this 'activity-behaviour' in the perceptual verbs. If Beatrice stops watching Venus moving she did watch it move. And if Lily stops watching the ant carrying a dead fly she did watch it carry a dead fly. So here is a case in which the verb object and the verb phrase both belong to the 'activity' category.

Also, take:

(6) Isaac saw the colour of the flowers

Ignoring tense for simplicity, the thought here is that the verb object in (6) is a state, a particular chromatic state of the flowers: the flowers' *being yellow*, for example. This state is something that can exist over an interval or for an interval. That is what differentiates it from an achievement. But it does not go on in time, or go on for a period of time. That is what differentiates it from an activity or an accomplishment. But these features are also, it might be suggested, shared by the verb, by "saw" as it is understood here. Here, it may be said, 'seeing the colour of the flowers' is not something that Isaac does or which goes on in or for a time. It is the state *being visually aware of* something. Though *being visually aware of* something can obtain over an interval of time it is not something that goes on over such an interval.

But this simple proposal clearly must be rejected. Perceptual activities can take as objects the states or conditions of things. For example, assuming the account of the verb object in a case of this type suggested above:

(7) Isaac is looking at the colour of the flowers

involves a perceptual activity taking the chromatic condition of the flowers as its object. What Isaac is looking at in such a case is some way that the flowers are or a condition that they are in. A way that the flowers are, or a condition that they are in, is not something that occurs, or goes on in time, as looking at the flowers is. In this case, the verb phrase and their object do not share their aspectual categories.

Perceptual states are also capable of taking things which occur or go on as their objects. For example, consider the following:

(8) From where she stood on the hill above the amphitheatre Lily could see the performance of Carmen.

In (8), the perceptual verb phrase “could see the performance of Carmen” is most naturally understood as stative. The sentence says that from her vantage point Lily was visually aware of the performance of Carmen. But though her visual awareness of Carmen is a state, and so something that obtains rather than goes on over time, the object of that visual awareness—the performance—is not a state, but something that goes on over time. However we are to respond to the observations made in the closing sections of Vendler (1967), a simple proposal of this kind cannot be correct.

4. Limited matching: manifest occurrence and manifest endurance

My view is that some of the objects of perceptual states and occurrences share a range of temporal features with those states and occurrences, but other objects do not. There is a matching of temporal properties, but such matching is limited.

Cases of perceptual activities directed on events and processes that go on over time reveal varieties of temporal matching.¹⁰ Let us focus one of Vendler’s own cases. Suppose one watches an ant carrying home a dead fly. One sees the ant start to move across the garden paving, then watches it wind its way up the side of a log, reach the top, then run along the surface before disappearing into a nest hole in the wood. One shared property seems to be temporal duration. If the ant’s journey seems to one to have only lasted a few moments, then the watching of that journey lasted only a few moments. But if one is a seasoned ant watcher and this journey took a long time (relative to the usual speed of such journeys) then so also did the watching.

Further, both the watching and the journey have temporal parts or temporal phases that succeed one another in time and stand in the same kind of ordering relations (‘before/after’ and ‘earlier than/later than’). The temporal structure and content of these successions seem to be shared. The ant climbed up the log, then after that ran along the surface and then after that disappeared into the hole. But so also one watched the ant climb up the log then run along the surface and then disappear into the hole.

¹⁰ The discussion that follows draws on claims about the perception of events made in Soteriou (2011, 2013), and Phillips (2010, 2014a, 2014b). I make no claims about Soteriou’s and Phillips’s commitments with respect to the specific questions posed at the end of section 3, nor about the limited matching account developed below.

Finally, the journey and the watching appear to share their temporal location. Even if the physics of light transmission leads us to deny that the actual temporal location of the events witnessed are simultaneous with the actual temporal location of the current phase of one's watching of those events, nevertheless it seems to one as if the occurrences witnessed are simultaneous with one's watching of them. The sharing of the temporal location between events watched and their watching is manifest when we reflect that these successions themselves unfold, from the perspective of the viewer, successively. As one watches the journey unfold, successive temporal phases of the journey one watches are, successively, presented as simultaneous with successive temporal phases of one's watching of that journey. With respect to the sharing of these temporal features, perceptual activities are distinct from visual imagination and visual recollection. In visually recollecting some occurrence, say, a particular walk in the country one took last year, the events so recalled do not seem to have a temporal location that is simultaneous with the location of one's recollection of them.

Over the time that the ant was watched we also find matching of duration, order and location between various states of perceptual awareness and their objects. One was visually aware of the ant's journey over the time one watched it. Here, the interval of time over which one saw that journey seems to be coincident with the amount of time that journey manifestly took. While one's visually awareness of the ant's journey obtained over the whole interval, there is also a succession of distinct states of visual awareness and changes between those states over the time one watched the journey. For example, one saw the ant climb the side of the log, and then after that one saw the ant scuttle along the surface (no longer seeing it climb) and then after that one saw the ant disappear into its nest. These perceptual states share their temporal order with the temporal phases of the ant's journey, first climbing the side of the log, then running along the surface, then disappearing into the nest. The objects of states of awareness are also apparently simultaneous with those states. As one watches the ant, it seems to one as if the movement along the surface that one perceives is simultaneous with one's visual perception of that movement. Visual perception of the ant's journey is also distinct from visual imagination or recollection of a similar journey in this respect.

At certain points throughout such temporally-extended perceptual activities we also find matching between the temporal properties of perceptual achievements and their objects.

At the very start of one's watching of the ant's journey, for example, one saw the ant start to move. The ant starting to move is an instantaneous occurrence with no temporal duration, but it is not an 'isolated' occurrence: it is the durationless time of onset of the ant's movement. But it seems also that one's seeing the ant starting to move here is also no mere isolated extensionless occurrence but is the point of onset of something: some time occupying perceptual state, such as the visual awareness of the ant's movement, perhaps, or of a perceptual activity, such as one's watching the ant moving. As well as their duration, these achievements also share their temporal order with the perceptual achievements of which they are the objects. The ant started to move before it reached the top of the log, which in turn came before its disappearance into the nest. But so also did the seeing of the ant's starting to move come before the seeing of it reaching the top of the log which in turn came before one saw it cross the threshold of the nest. So also do we seem to find the sharing of the temporal location of these perceptual achievements and their objects. From one's own perceptual perspective, the time at which one begins to see the ant's movement is the same time as that at which the ant's movement seems to begin.

But even if there is reason to think that temporal duration, order and location is shared between perceptual states, occurrences and their objects in cases of event perception, these relations do not apply across the whole range of objects of perceptual verbs and objects. For not all of the objects of perceptual states and occurrences are events. Consider the following:

(10) Tom spotted the peregrine

(11) Isaac looked at the oleander bush

(12) Beatrice watched the cat

(13) Lily was visually aware of the ant

In each of these cases, the grammatical object of the perceptual verb is a singular noun phrase that refers to a concrete, material particular. In each of these cases the objects are central exemplars of Aristotelian primary substances, things that are bounded, countable,

material particulars that belong to kinds that determine principles of activity for those things.

With respect to (10), a peregrine is not something that occurs, and its existence is not instantaneous or durationless. Peregrines exist over intervals of time, of some non-zero duration, no matter how short that interval is. So, in (10) there can't be a match between the duration of the object and the achievement. In (11) and (12) while both the perceptual activities and primary substances have temporal duration—they exist over intervals of time—it is hard to make sense of the sharing of the other temporal properties discussed above. Suppose one watches a cat walking across the overgrown lawn. Unlike the movement of the cat across the lawn, the cat itself does not seem to unfold successively, temporal part by temporal part, as one's watching of it goes on temporal part by temporal part across that interval of time. Also, while we can locate the onset of the cat's walk, and temporal parts of the cat's walk, as before or after one another, we can't locate what is manifestly the cat before or after anything else. And so also, it seems, we should be sceptical of the idea that over an interval of time over which the cat is watched, it seems to us as if the temporal location of a temporal part of our watching of the cat is simultaneous with the temporal location of a temporal part of the cat. It is the whole cat that is manifest to us in our perceptual experience as that activity occurs, phase by phase, in time.

Similar difficulties attach to (13). A state of visual awareness of an ant is something that can obtain over an interval, and so may share temporal duration with the object of that state. But perceptual states over any interval of time are capable of being ordered in a succession the constituents of which are related as 'before/after' or 'earlier/later'. When one watches the ant carrying the fly home, for example, one was visually aware of the ant climbing the side of log, then one was visually aware of it travelling down the log, then one was visually aware of it circumnavigating the stump of the bough. The awareness of the stump circumnavigation was later than the awareness of the journey across the top of the log which was later than the awareness of the ant climbing to the top. But the ant itself that is the object of one's watching is not capable of being temporally ordered in terms of being earlier and later than anything else. It is the ant itself that is present to one in one's visual awareness of it over time, rather than temporal parts of the ant.

Adopting the vocabulary of a familiar claim about the persistence of primary substances over time, let us say that primary substances endure over time. Endurance over an interval of time is a manifest temporal property; one that is accessible to the subject in first personal reflection on how such objects seem to occupy time when they watch or look at them. In virtue of their seeming to endure, the primary substances that come to visual attention manifestly possess temporal properties that the perceptual activities directed on such things, and the succession of states that obtain over the time such activities go on, clearly lack. Those substances exist over time, but they are manifestly present in their entirety at any time. Their existence over an interval does not consist in the existence of a temporally ordered succession of temporal parts over any an interval.

Before moving ahead to consider some responses to this approach, let's look back at some of the observations that motivated our enquiry from the perspective of such a limited matching account. A number of different possibilities about how to understand these observations are consistent with this approach. Here is one suggestion about watching as activity and accomplishment. Watching something, it might be said, is primarily an activity. In the case of watching the ant's journey, the basic activity is *watching an ant moving* or *watching an ant carrying a fly*. In either case, if one stops watching an ant moving or carrying a fly one has watched it move or carry a fly. And that remains so even if it is conceded that such an activity is accompanied by the intention to watch the ant moving until it gets back to its nest. However, given that one's watching of the ant stopped when it did (as the ant entered the nest) the previous stretch of perceptual activity can be derivatively recast as a perceptual accomplishment that took a certain amount of time to reach that point. This is to understand the notion of watching an ant carry a dead fly home as a 'resultant accomplishment'.¹¹ If we understand 'seeing Carmen' as something that one can genuinely be said to be doing, as Vendler suggests, then seeing Carmen must be taken to be the perceptual activity of watching Carmen, and so admits of the same set of options just described.¹²

¹¹ See Rothstein (2004, ch.3) for detailed discussion of resultant accomplishments.

¹² If 'seeing *Carmen*' is instead understood as the state of being perceptually aware of *Carmen*, things are more complex. Adopting Vendler's suggestion would be to take the perceptual state of seeing *Carmen* to be a kind of accomplishment. The idea that any state could be a kind of accomplishment has generally been rejected. (See, for example, Rothstein (2004, 14-7)) Here the thought is that if, say, the glass was fragile from t1- t10 then it was fragile at any point throughout, or during any sub-interval of t1- t10. One way to explain the failure of the perceptual state to be an accomplishment might be to hold that one sees Carmen in virtue of seeing a temporal part or phase of *Carmen*. And that state predication will not show the characteristics of an accomplishment. (Thanks to Rowland Stout here). But there are other possibilities. For

With respect to seeing as spotting, (5) and (6) amount to the rejection of the idea that one can spot temporally-extended occurrences. The most straightforward route here is to reject the claim. Where spotting is understood as a temporally instantaneous perceptual occurrence, for one to spot someone running or spot his run is a durationless transition from absence of perceptual awareness of his movement to a state of perceptual awareness of movement. Of course, one may also merely spot *someone*. That would be a perceptual achievement which is the durationless point of onset of watching, looking at, or perceiving them.

5. Questions about limited matching

These ideas will likely prompt responses from a number of different directions. Because claims about temporal matching in the case of the perception of events are more familiar in recent discussion, here I focus on responses that concede these ideas but dispute the relevant claims about the temporal characteristics of the perception of primary substances. Some of these responses can be disarmed reasonably straightforwardly. But some of these worries it will not be possible to address wholly satisfactorily in the space available to me here. In any case, identifying these worries and lines of response will help to develop a better understanding of manifest endurance and suggest directions for further research.

(i) Perhaps the surface form of expressions such as (10)- (13) is misleading, and we should see the logical form of these expressions as containing a place to be filled, perhaps in the context of use, by material that picks out something event-like, or processive. So, perhaps, if one spots an object then what one spots is in fact an instantaneous occurrence involving the object. If one watches or looks at an object, what one is really watching or looking at is some activity or process in which the object is engaged. For example, watching a bird is watching a bird flying or walking across the grass. And if one is visually aware of an

example, Matthew Soteriou (2011, 2013) has argued that when perceptual states take events for their objects, for example, the visual perception of movement over an interval of time, they exhibit some of the characteristic behaviour of accomplishments, including failure to be ‘homogeneous down to instants’. Soteriou’s argument turns on consequences of his view that the obtaining of perceptual states over intervals of time constitutively depends on perceptual activities or occurrences which go on over those times. These issues cannot be pursued further here. What ought to be noted then is that even if we understand ‘seeing *Carmen*’ as a state of visual awareness, there is a route to defending Vendler’s claim that there is a ‘queer accomplishment sense’ of ‘seeing’. I leave these further issues open. (For critical discussion of Soteriou’s discussion of non-homogeneous states see Steward (2018)).

object, one is aware of some ongoing process, activity or event involving that object, an ongoing process which unfolds in a succession and which provides the basis for a succession of perceptual states over the relevant interval of time. If that is so, then any case of the perception of a primary substance over time will also be a case of the perceptual awareness of events or processes, awareness that involves the relevant match between its own temporal properties and those of its objects.

Setting out these ideas in a more substantive way and determining whether they are correct or not would take us far beyond what can be done in this paper. But there is, in any case, a basic reply to this worry. Even if it were conceded that all watching of objects was the watching of objects which were visibly engaged in activity, or that all states of visual awareness of objects are cases of awareness of objects that are visibly engaged in processes over time, for all that, those primary substances which are the agents or subjects of those activities or processes nevertheless seem to endure over time in a way that those events or processes do not. Arguing that all objects which manifestly endure are engaged in activities or processes over the intervals they are watched or perceived, even if true, does not itself discharge the obligation to show how the manifest endurance of those primary substances over time can be accommodated within an approach built around the idea that it is temporal duration, order and location which is shared by perceptual states and occurrences and their objects.

(ii) Perhaps watching and looking, while processes, manifestly endure over the intervals of time they go on. If so, there would no longer be any particular difficulty with the idea that there is a match between the manifest temporal properties of primary substances and the temporal properties of activities of watching or looking. One route to such a view is the account of processes developed by Rowland Stout in a series of papers.¹³ According to Stout, processes are ‘occurrent continuants’; while such processes as fighting, walking and watching are to be distinguished from primary substances, given that they are things that occur, such processes are distinct from particular complete events of fighting, walking or watching with respect to the way that they occupy time. Finished fights, walks and stretches of perceptual activity are things that have temporal parts over intervals of time,

¹³ See, in particular, the discussions in Stout (1997, 2016).

but processes do not. Processes, like primary substances on the endurantist picture, are ‘wholly present’ at any time they exist.

My view is that the thesis that processes are occurrent continuants ought to be resisted, though, and that therefore a view of this kind cannot be used to ground such a response. Elsewhere I have offered a detailed response to some of the key arguments that have been used to motivate this view of processes.¹⁴ Now is not the place to rehearse the details of the arguments for the view nor the reasons there may be for resisting them. What can be said at this point is just that the view that processes are continuants is controversial, and subject to lively dispute in the recent literature. Pursuing this line of response to the limited matching account would then require a way to negotiate difficulties with arguments for the continuant processes view.

(iii) Someone might dispute the claim that substances such as human beings, palm trees and peregrines seem to endure over the intervals of time they are perceived. If it is not the case that such objects seem to endure over intervals of time, then this part of the limited matching thesis is mistaken. It might be argued that what is manifest in perceptual awareness is merely that such substances persist over an interval of time; where to persist is just to exist over such an interval of time. What is manifest in perceptual awareness is neutral as regards the mode of persistence of primary substances.¹⁵

The problem with this suggestion is that if this is true of how primary substances appear to exist over intervals of time, then it is unclear why it would not also be true of how the processes that they are engaged in appear to exist over intervals of time. For processes persist over time as well. And if the claim is now that both processes as well as primary substances seem to exist over time in a way which is neutral with respect to their mode of persistence over time, then this proposal cannot be reconciled with how the world strikes us from the perspective of the perceiving subject. In one’s perceptual encounters with the world, one is presented with processes which go on in time successively, phase after continuous phase, over intervals of time, and things which manifestly do not, such things as the objects which are the agents or subjects of those processes. What is manifest to us here when we reflect from the standpoint of perceptual awareness on primary substances

¹⁴ See Crowther (2018). For related argument against the occurrent continuants thesis see Soteriou (2018).

¹⁵ Thanks to Jack Shardlow for pressing me about this line of objection, despite disagreeing with it.

which are visibly engaged in activity—ants apparently running across surfaces of logs—is not merely the temporal characteristics of processes and the primary substances engaged in process, but the manifest contrast in the mode of their persistence across intervals of time.

(iv) A theme of much discussion in the recent literature—discussion that there is not the space to review here—is that there is not a satisfactory notion of endurance that is fit for purpose as a way to frame meaningful and non-trivial disputes about material persistence over time.¹⁶ But if the notion of endurance is not well-understood, then neither is the notion of manifest endurance. So the limited matching account needs to be rejected.

This line of thought raises interesting questions that take us beyond what can be discussed here. In advance of a lengthier discussion, however, what can be said is that we do not need to have access to a satisfactory way of formulating the notion of endurance (or ‘endurantism’) in order to have reasons for taking temporal matching to be limited. The core claim is just that primary substances such as palm trees and peregrines manifestly relate to intervals of time in a way that perceptual states, and occurrences, whether achievements or processes, do not. But to establish this it is sufficient to note that primary substances appear over intervals of time as non-successively present over those intervals, and as not capable of being temporally located as ‘before’ or ‘after’, ‘earlier than’, or ‘later than’ other objects of perception. Perceptual activities such as watching or looking at an object over an interval of time occur over an interval, and their occurrence involves a succession of activity-phases. It is true that perceptual states, such as being visually aware of a palm tree or a peregrine falcon, over an interval, do not occur. But these states are capable of being ordered in terms of before and after.

7. Conclusion

After identifying several questions about the relation between verb phrases and their objects that arise from remarks made in Vendler (1967) I have attempted to show that in attempting to answer Q1, reflection on the temporal properties of perception of events and

¹⁶ For discussion of these issues see Hofweber and Velleman (2011), Fine ([2006]2008), Crisp and Smith (2005), Mackinnon (2002), Donnelly (2011). I will discuss the bearing of questions about the temporal characteristics of activities and processes on questions about the persistence of substance over time and debates about the nature of endurantism in more detail elsewhere.

the perception of enduring objects seems to drive us in two different directions. This sets a constraint on any convincing answer to Q2. A satisfactory account of the significance of the sharing of temporal properties such as duration, order and temporal location across perceptual states and occurrences ought to be capable also of explaining the failures of matching in the perception of primary substances.

One reason that this tension is of interest is that the manifest endurance of primary substances encountered in visual awareness has gone relatively neglected in that part of contemporary philosophy of perception that has focussed on the temporal aspects of perception. Those discussions have invariably focused on the temporal aspects of the perception of events, processes and changes.¹⁷

In a recent paper, for example, Ian Phillips (2014a) attempts to defend what he calls a ‘naïve view’ of the temporal properties of perceptual experience. He writes:

According to the naïve view, when all goes well, your stream of consciousness inherits the temporal structure of the events that are its contents. You “take in” the temporal structure of the events you witness in witnessing them. As a result, the temporal structure of experience matches the temporal structure of its objects. In cases of illusion, it is as if this is so. Thus, in every case, the temporal structure of experience matches the apparent temporal structure of the objects of experience. (2014a, 139).

If we read “the objects of experience” here in an unqualified way, as picking out primary substances as well as events, then the limited matching thesis would seem to generate problems for such a ‘naïve view’. But I take it we should resist such a reading. Phillips’s focus on the temporal structure of our awareness of events and processes suggests that we ought to read “objects of experience” here as restricted to events and processes: the claim is that the temporal structure of experience of events and processes matches the apparent temporal structure of the events and processes experienced. At the very least, however, such a view might tempt the thought that the task of understanding the manifest temporal

¹⁷ More specifically, they have focussed on the temporal properties of perceptual *experience* of events and processes. I set aside complications concerning the relation between the claims made above and claims about the temporal aspects of experience. This is a matter for fuller discussion elsewhere. I note that in the recent literature a number of writers have turned attention to the apparent endurance of objects. See for example Prosser (2016), chapter 6. Prosser’s discussion builds on ideas suggested in Velleman (2006).

properties of perceptual occurrences is just that of understanding the temporal properties of the perception of events and processes. In some parts of the literature, indeed, it seems to be stipulated that this is so. For example, in setting out the subject-matter of for his investigation of the temporal properties of perception, Geoffrey Lee (2014: 149) writes: “A *temporal experience* is an experience that presents to its subject states of affairs that manifestly involve duration and change over time, such as the temporal order of sounds, the velocity of moving objects, or the duration of a brief flash of light in the visual field.”¹⁸

One consequence of our discussion here ought to be clarity about the fact that this is a restricted conception of a wider field of enquiry. A focus on the manifest temporal properties of events and processes confines philosophical attention to only those manifest temporal properties of things that go on over time. But the endurance of primary substances is a temporal property manifest in our perceptual awareness of objects over time, and is no less a temporal phenomenon than the duration, order and succession of the processes and changes in which that object is involved. The results of an enquiry focussed on the perception of events can provide at best a partial understanding of the relations between the temporal properties of perception and of its objects.

I want to end by identifying an area for further research that may serve as a point of transition between answers to Q1, about the scope of temporal matching and the nature of the matching properties, to answers to Q2, concerning the explanation for this match.

In all this talk about the temporal properties of verb objects and whole verb phrases, where has the verb *subject* gone? Do verb *subjects* have manifest temporal properties that coincide with either the temporal properties of verb objects or with the whole states of affairs in which objects are seen, watched or looked at? I have argued that there does not seem to be a match between the manifest endurance of primary substances and the temporal properties of perceptual activities such as watching an object. But it is notable that when one is awake, attentive, and engaged in some such perceptual activity as watching an object, there are various matches between the temporal properties of oneself,

¹⁸ Similarly, Dainton (2014, 101) suggests that ‘temporal experience’ is to be understood simply as ‘experience of change and succession’. Pelczar (2010) suggests that questions about the temporal properties of experience are questions about the temporal properties of experiences of change.

as one is aware of oneself, and the manifest temporal properties of the object one watches, at least when that object is presented as occupying time in the characteristic way that objects do. For example, one is aware of oneself as existing over an interval of time, as being capable of atelic activity over that time, as existing in a way that is not temporally limited by the starts and stops of such activity. But that, at least so it seems, is also how objects seem to one, when one is aware of them as enduring. In addition, one is also aware of oneself, in wakeful, attentive, consciousness as possessed of an immediate past and an immediate future and so as inhabiting the ‘now’ or as inhabiting ‘the present’. When they are encountered in perceptual awareness, manifestly enduring objects seem to one to inhabit the very same ‘now’ or ‘present’ which one seems to inhabit oneself, at the time one of one’s awareness.¹⁹ Here there is a match between oneself and the objects one perceives with respect to their being located in the present.²⁰ If these suggestions can be substantiated, answers to Q2 will need to be sensitive to the fact that an expanded conception of the relevant relata may reveal new temporal matches. But these additional burdens may be offset by the fact that understanding the relation of these two forms of temporal matching to one another seems to be a natural way to begin answering Q2.

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¹⁹ See Soteriou (2013, ch. 5) for further discussion of these ideas. See Crowther and Soteriou (2017) for relevant discussion of the links between temporal representation and the wakeful condition.

²⁰ The significance of attitudes towards oneself over time as a source of intuitions about the endurance of objects is a theme of J. David Velleman (2006). In his first Amherst Lecture, Velleman’s aim is not merely to trace intuitions about endurance to this source, but to diagnose a confusion at the core of this intuition. These issues go beyond what I can discuss here.

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