'DURATIVE ACHIEVEMENTS AND INDIVIDUAL-LEVEL PREDICATES ON EVENTS'[1]

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1. INTRODUCTION

Ryle (1949, Chapter V) discusses a range of predicates which in different ways exemplify a property I shall call *quasi-duality* – they appear to report two actions or events in one predicate. Although Ryle's concerns were not temporal or aspectual, his discussion is recognized as a seminal contribution to the development of theories of aktionsart. In particular, his term *achievement* is adopted by Vendler for the class of momentary events.

This paper examines a number of quasi-dual predicates which are not generally discussed in the aktionsart literature, including *break a promise*, *miscount*, and *cure the patient*. Two types of quasi-dual predicates are identified and dubbed *criterion predicates* and *causative upshot predicates*. It is shown that both types of quasi-dual predicate lack process progressives, despite being durative, and it is argued that the lack of process progressives identifies these predicates as (aspectual) achievements. They are termed *durative achievements* to distinguish them from canonical, momentary achievements. It is argued that a criterion predicate has the aspect of an achievement because it expresses an individual-level property predication on the event argument, and this is incompatible with a process progressive, which is stage-level for the event. Causative upshot predicates are argued to be lexically non-distributive, in contrast to accomplishments, which they otherwise resemble.

The paper is structured as follows:
Ryle's discussion of quasi-duality and the development of the currently used, Vendlerian class of achievements are reviewed in section 2. My classifications of criterion predicates and causative upshot predicates are introduced in section 3, where I name the quasi-dual parts of the denoted eventuality *hosts* and *parasites*. The relation between host events and parasite events is explored further in section 4. Section 5 reviews the relevant tests for aktionsart, preparatory to discussion of the aspectual characteristics of quasi-duals in section 6. Stage-level and individual-level predication are reviewed in section 7, where I argue that criterion predicates express an individual-level property of the event argument. This individual-level predication is incompatible with the process progressive, which is stage-level for the event argument. In section 8 I compare accomplishments and causative upshot

predicates, and argue that the lack of a process progressive with causative upshot predicates reveals lexical non-distributivity, associated with the '(un)lucky' meaning component or upshot identified by Ryle – (un)lucky upshots are contrasted with the culminations of accomplishments. Concluding remarks follow section 8.

2.   BACKGROUND: RYLE, KENNY AND VENDLER

The term *achievement* as the name of a Vendlerian aspectual class is originally taken from Ryle (1949), though Ryle's classification of predicates is not obviously temporal or aspectual. Achievements as Ryle identifies them are temporally varied, including but not confined to momentaneous events: "The thimble is found, the opponent checkmated, or the race won, at a specifiable instant; but the secret may be kept, the enemy held at bay, or the lead be retained, throughout a long span of time" (p. 143).

Ryle's chief purpose was to review predicates which, in various ways, purport to denote two actions or events occurring together, and to argue that it is wrong "to postulate certain mysterious actions and reactions to correspond to certain familiar biographical episodic words" (p. 147). I shall use the term *quasi-duality* for the property Ryle discusses.

Ryle explores a number of different kinds of quasi-dual predicates. The term *achievement* is introduced in the passage below (p. 125), applied to quasi-dual predicates with a 'lucky' or 'unlucky' character, or in other words, with a success or failure component.

Many of the performance-verbs ... signify the occurrence not just of actions but of suitable or correct actions. They signify achievements. Verbs like 'spell', 'catch', 'solve', 'find', 'win', 'cure', 'score', 'deceive', 'persuade', 'arrive', and countless others, signify not merely that some performance has been gone through, but also that something has been brought off by the agent going through it. ... We also use corresponding verbs of failure, like 'miss', 'misspell', 'drop', 'lose', 'foozle', and 'miscalculate'.

Obey (p. 138-40) is described as having a component of prior learning and intention, *notice* (p. 130), among others, is described as having a component of 'heed' or 'minding', and *migrate* as having an extra component of fulfilling a natural law (p. 136-7):

The two statements 'the bird is flying south' and 'the bird is migrating' are both episodic reports. The question 'Why is the bird flying south?' could be answered quite properly by saying 'Because it is migrating'. Yet the process of migrating is not a different process from that of flying south; so it is not the cause of the bird's flying south. ... We must say that 'it is migrating' describes a flying process in terms which are partly anecdotal, but are also partly predictive and explanatory. It does not state a law, but it describes an event in terms which are law-impregnated.

The success component of achievements is also described as an upshot (p. 144): "When a person is described as having fought and won, or as having journeyed and arrived, he is not being said to have done two things, but to have done one thing with a certain upshot." On page 143 Ryle defines achievements primarily in terms of quasi-duality: "One big difference between the logical force of a task verb and that of a corresponding achievement verb is that in applying an achievement verb we are asserting that some state of affairs obtains over and above that which consists in the performance, if any, of the subservient task activity."

Overall, the key property of interest to Ryle is quasi-duality, and the different kinds of quasi-dual predicates he discusses, including his achievements, primarily illustrate this central idea.[2]

Kenny (1963, Chapter 8) introduced temporal criteria with his observations concerning aspectual morphology and different verb classes, drawing on Aristotle. Kenny's temporal classes are not explicitly developments of Ryle's types, but correlations are signalled. Kenny's term *performance* for bounded events is taken from Ryle, Kenny's activities are Ryle's task verbs, and Ryle's achievements fall into all three of Kenny's classes, states, performances and activities (p. 185, fn. 1).

Vendler (1967, Chapter 4) gives the first explicitly temporal descriptions of event types, his processes, accomplishments, achievements and states: "running, writing, and the like are processes going on in time ... they consist of successive stages following one another in time" (p. 99); "running a mile or writing a letter ... also go on in time, but they proceed towards a terminus which is logically necessary to their being what they are" (p. 101); "achievements occur at a single moment, while states last for a period of time" (p. 103). Here Vendler introduces the focus on achievements as momentary events, including Ryle's momentary quasi-duals, but excluding non-momentary quasi-duals.

I shall argue in this paper that, although Ryle's intention was not to classify predicates in aspectual terms, nevertheless the quasi-dual structure he draws attention to has an aspectual dimension. Other quasi-dual predicates, in addition to the canonical, momentary achievements such as *notice* and *arrive*, may also be classed as achievements on aspectual grounds. The two kinds of quasi-dual predicates I consider are introduced in the next section.

3.   CRITERION PREDICATES AND CAUSATIVE UPSHOT PREDICATES

I shall call the predicates of interest in this paper **criterion predicates** and **causative upshot predicates**. Under criterion predicates I include Ryle's *score a goal, prove the theorem* and *solve the problem*. The key notion here is that there is some conventional criterion an action must meet in order to qualify as being an

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[2] In addition to the momentariness of many of Ryle's quasi-duals, identifying them as Vendlerian achievements, his observations concerning (un)luckiness foreshadow the finding that Vendlerian achievements are typically non-agentive. I comment further on agentivity in section 6.4.

event of the criterion-matching kind. The action's matching or satisfying the criterion is the upshot. For example, to score a goal one must kick the ball over the goalpost, in accordance with the rules of the game and while one is a player in a game. Given those circumstances, the kicking of the ball over the post constitutes the scoring of a goal. Without those circumstances, it is simply kicking the ball over the post.[3]

Criterion-matching is also characteristic of *obey*. When a soldier obeys an order by fixing his bayonet, in addition to the obedient intent Ryle comments on, it is also necessary that the order stipulates bayonet-fixing. Given that the order stipulates bayonet-fixing, the fixing of the bayonet as a whole constitutes the obeying of the order. Further predicates in this group (not discussed by Ryle) are *fulfil their expectations, break a promise, break a law, break a record*, identified by Bennett (1994, p. 40) as 'proposition matches', and others such as *make a mistake*.

Causative upshots are predicates such as *cure the patient* and *convince*. They are transitive, in contrast to the other upshots, in that the upshot consists of a change of state in an entity other than the actor.

For ease of discussion, I shall term the basic action for both types of predicate (*kick the ball over the post, fix the bayonet*) the **host event**, and the extra component of upshot, criterion-matching or effect (*score a goal, obey the order*) the **parasite event**.

The next section reviews hosts and parasites in more detail. In section 4.1 I claim that the host-parasite relation is expressed by the interpretive progressive, and section 4.2 comments on the similarity between criterion predicates and illocutions, and causative upshot predicates and perlocutions. The issue of whether the host is an event or a fact is addressed in section 4.3.

4.   HOSTS AND PARASITES.

4.1   The interpretive progressive

The relationship of a parasite to its host is very like the re-description of an event identified by König (1980) in his discussion of what he terms (after Buyssens (1968) the **interpretive progressive**, underlined in the examples below. Examples (1a-c) are taken from König.

(1)   a.   If I should go to one of the tea-parties in a dressing gown and slippers, I should be <u>insulting</u> society, and <u>eating</u> peas with my knife.   (Jespersen 1954, p. 12.8)

        b.   If we choose to place the dividing line between the two at the county line, then we are <u>basing</u> our decision on social rather than linguistic facts.   (Trudgill 1974, p. 15)

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[3] Note that scoring a goal is not the culmination or final moment of kicking the ball over the post – the culmination is the onset of the ball's being over the post.

c.	A pupil, a proof-reader and an oculist's patient might all be told to read carefully a certain paragraph: the pupil will be <u>disobeying</u> his instructions, if he notices the misprints but not the arguments.	(Ryle 1963, p. 137)

d.	In saying these things he was <u>warning</u> you. (Austin 1962)

e.	When a person is described as having fought and won, or as having journeyed and arrived, he is not <u>being</u> said to have done two things, but to have done one thing with a certain upshot ...
(Ryle 1963, p. 144)

König argues that this use of the progressive does not have the 'temporal frame' reading described by Jespersen (1932, p. 178-80), analysed by Dowty (1977), Bennett and Partee (1978), and others. Rather, a predicate in the interpretive progressive gives a redescription of an event which is independently reported, usually in the preceding clause. Here the interpretive progressive is context-dependent, in that it does not introduce its own reference time, but must be evaluated at the time given by the event which is redescribed – the interpretive progressive "simply specifies that the sentence in which it occurs must be evaluated at the same interval as the 'preceding' sentence" (p. 287).

König's main point is that the progressive is dependent on a contextually given time, and that the interpretive use provides evidence for this. His claim concerning the context-dependence of the progressive applies to all uses, including the 'temporal frame' or 'in progress' sense, and he does not contrast the interpretive progressive and the 'in progress' reading. The examples in (2) with canonical momentaneous achievements show that these contrast quite sharply, supporting the identification of the interpretive progressive as a distinct sense. Although examples (2a,c) are pragmatically odd, in that the redescription format must be interpreted as providing a gloss for the meaning of a common expression (*find, see the joke*), (2a,c) are more acceptable than (2b,d), which show the familiar clash between an 'in progress' progressive and a momentaneous event.

(2)	a.	In suddenly uncovering and seeing the key he was looking for, he was finding it.

	b.	#	He was finding the key when the door slammed.

	c.	In understanding the humorous nature of his remark she was getting the joke.

	d.	#	She was getting the joke when the doorbell rang.

The interpretive progressive, then, (i) is a distinct sense from the 'in progress' progressive; (ii) expresses a redescription of a single given event, comparable to a parasite on a given host; and (iii) is compatible with canonical achievements (modulo the plausibility of a 'more basic' description of such an event as getting the joke).

4.2 Comparison with illocutions and perlocutions

König points out that the interpretive progressive appears in the frame typical of illocutionary acts in Austin (1962), as shown in (1d) above. The interpretive progressive is the Y progressive in the frame *In saying X he was Ying* or *In Xing he was Ying*.

Ryle's quasi-duals such as 'kick and score' and König's 'preceding' sentence combined with an interpretive progressive clause, share the characteristic that the two expressions involved in each case give different predications on what is taken to be a single event or act. The general notion of host and parasite subsumes these relations. Applying the notion to Austin's speech acts, a locutionary act can be associated with two kinds of parasite, an illocutionary act as in (1d) above and also a perlocutionary act. Roughly, a perlocutionary act produces a certain effect or consequence, which may be the achievement of the perlocutionary object lexicalized in such perlocutionary verbs as *convince, persuade, console*, and the like, or some other caused sequel. An illocutionary act, on the other hand, need only have a particular communicative force or character by convention, and need not produce any effect in the hearer apart from the hearer's recognition of the illocutionary force.

Comparing illocutions and perlocutions, Austin contrasts the *in* frame with the *by* locution. *In* frames, associated with illocutionary acts (such as *urge*) and *by* frames, associated with perlocutionary acts (such as *induce*) are illustrated below.

(3) a.   In saying this he was urging her to leave.
　　 b. ? In saying this he urged her to leave.
　　 c. ? By saying this he was urging her to leave.
　　 d. ? By saying this he urged her to leave.

　　 e. ? In saying this he was inducing her to leave.
　　 f. ? In saying this he induced her to leave.
　　 g. ? By saying this he was inducing her to leave.
　　 h.   By saying this he induced her to leave.

The '?' judgements shown here do not signify clear ill-formedness or anomaly, but indicate only that the unmarked form in each group is preferable to the others. The differences are slight. As Austin comments, "At most it might be claimed that the formula ['in saying *x* you were *y*-ing'] will not suit the perlocutionary act, while the 'by' formula will not suit the illocutionary act" (p. 124). The general property expressed in the *in* frame, that the host simply realizes the parasite, is shared by illocutionary acts and criterion predicates, which appear most naturally in the *in* frame. A perlocution is partly realized by its host locution, but requires in addition an effect to be produced. Causative upshots share the extra effect component and are more compatible with the *by* locution. Although illocutionary and perlocutionary verbs are not

addressed in this study, related uses of the *in* and *by* frames will be used in presenting the data below. The frames are not used here as diagnostics.

4.3   Is the host an event or a fact?

As noted in section 3 above, my criterion predicates are generally the same as the propositional matches in Bennett's (1994) analysis of the *by* locution. Bennett argues that what satisfies the criterion in a predicate such as *break a promise* is not an event or action, but a fact. For example, *He broke a promise by coming home late* is analysed as "Some fact about his behaviour conflicted with a promise he had made earlier – namely the fact that – he came home late" (p. 36). Explicitly, what I have described as the host event corresponds to the fact that he came home late.

Every event comes with its cloud of attendant facts, and so for every event there is reporting in terms of events as well as reporting in terms of facts. Although facts and events can be difficult to distinguish, one difference between them that I assume is that events are subject to some redescription but facts are narrowly specified. For example, if Jones came home late, the event of Jones coming home is the event of him coming home late, but the fact that he came home is not the same as the fact that he came home late.

This distinction is relevant to the difference between whether a criterion is matched or not and the grounds for doing so. Suppose that Jones as a former MP is entitled to cheap air travel. The fact that he is a former MP is the grounds for his being so entitled, but the entitlement rests with him, not with the fact – the fact is not entitled to cheap air travel. Correspondingly, whether or not an event matches a criterion depends on, but is not the same as, the grounds for matching. In the data below, the criterion relationship expressed in the *in* frame is somewhat tolerant of redescription, which supports an event-based analysis.

(4)   a.   Jones promised not to recite a limerick.
       b.   Jones promised not to recite the limerick about the bishop.
       c.   Jones promised not to recite anything.
       d.   Jones recited the limerick about the bishop.
       e.   In reciting a limerick Jones was breaking his promise.
       f.   In reciting a certain limerick Jones was breaking his promise.
       g.   In reciting the limerick about the bishop Jones was breaking his promise.
       h.   The fact that Jones recited a limerick ≠ the fact that Jones recited the limerick about the bishop ≠ the fact that Jones recited something.

Take (4d) to be true. Assuming either (4a) or (4c) to be true, (4e-g) are all true. Taking (4b) to be true, (4g) is obviously true, (4e) is odd because *a limerick* in this sentence doesn't easily have the required specific reading, but (4f) is true.[4] In short,

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[4] Informativeness implicature may be at work here in constraining the interpretation of the *in* clause. *In reciting a limerick Jones was breaking his promise*, with *a limerick* on the non-specific reading, implicates that the promise did not specify the banned action in more detail, and *recite a*

sentences such as (4e-g) report that a reciting event satisfied a criterion, but need not state which fact about that event constituted the grounds for the match. I conclude that the host is an event.

4.4   Redescription and temporal properties

In what follows, I take as a departure point König's proposal that the interpretive progressive in the *in* frame maps the redescriptive predicate (the parasite) to the interval of the redescribed event (the host). Recall that the *in* frame with the interpretive progressive correlates with Austin's illocutions and my criterion predicates – the parasite event is realized simply in the occurrence of the host event. Accordingly, the host and the criterion parasite occur at the same interval.

The *by* locution does not contain the interpretive progressive, and in fact a perlocution or causative upshot need not occupy the same interval as the host event, because the effect may be delayed – for example, Jones may urge Harris to a course of action, and Harris on mulling the matter over may become convinced long after the conversation ends. However, the effect may arise gradually over the interval of the host, and in such a case the host and causative upshot share an interval, or largely overlap. Causative upshots of this kind are to be considered here. So generally, for the examples to be considered below, the interval of occurrence for both host and parasite are either the same interval or largely overlapping.

Despite the complete or partial temporal overlap, I shall argue that some parasites do not occupy the interval which is shared with the host in the same way that the host does, having a different aktionsart. Preparatory to presenting the data, the next section reviews the signs of aktionsart relevant to this discussion.

5.   SIGNS OF AKTIONSART

The two main issues I wish to pursue in the way an event occupies its interval are duration and process.

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limerick is the most informative description of the event in its promise-breaking guise. The use of *a certain limerick* cancels this implicature, but does not go so far as matching the content of the grounds. The same consideration applies to 'He broke his promise by coming home late'.

(i)   He promised to be home at 5.00, and came home at 9.00.
(ii)   In coming home at 9.00 he broke his promise.
(iii)   In coming home late he broke his promise.
(iv)   In coming home after 5.00 he broke his promise.
(v)   In not coming home at 5.00 he broke his promise.
(vi)   In coming home after 7.00 he broke his promise.
Assuming that (i) is true, (ii), (iii), (iv) and (v) are all true and appropriate, but (vi) is odd because it implicates that the time named is the threshold for the match.

5.1   Duration

In commonly used diagnostic frames (see Vendler 1967, p. 100-1; Dowty 1979, p. 56-60), *in* adverbials give the duration of accomplishments and *for* adverbials give the duration of processes and states, as in (5a-c). The *take* time construction in (5d) also gives the duration of an accomplishment.

(5)   a.   This program processed the data in five minutes.
       b.   Jones strolled about for half an hour.
       c.   The window was open for ten minutes.
       d.   This program took five minutes to process the data.

The *take* and *in* frames differ slightly in pragmatic emphasis, in that (5a) is more compatible with the program being considered quick, and (5d) is more compatible with the program being considered slow.

If *in* adverbials modify canonical achievements, considered to be non-durative, the statement is interpreted as expressing the delay before the event occurred, as in (6a). An *in* adverbial modifying a state or process is commonly anomalous, but may also be interpreted as the delay before the onset of the event, as in (6b).

(6)   a.   She noticed the marks in five minutes.
       b.   The room was completely dark in an hour.

5.2   Process, progressives and duration

In addition to the basic process predicates such as *chat, stroll about, knit*, and so on which combine with a *for* adverbial in their simple tenses, I shall assume that accomplishment predicates in the progressive form denote the processes of which the events mainly consist, excluding only the moment of culmination. Progressives as process-denoters combine in the expected way with *for* adverbials, as in (7a). The statement of duration of an accomplishment entails a statement of duration for its component process – (7b) and (7c) entail (7a).[5]

(7)   a.   This program was processing the data for five minutes.
       b.   This program processed the data in five minutes.
       c.   This program took five minutes to process the data.

Given the relationship between processes, duration and the progressives of telic predicates, the progressives of achievement predicates are expected to be anomalous, on the assumption that achievements are momentaneous (see

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[5] The entailment is sensitive to the scalar implicatures found with cardinal numbers, in this case that the interval stated is the maximum. (7b) and (7c) strictly also entail all the statements of the form 'was processing the data for one/two/three minutes'.

Piñón 1997 and references cited there). Being momentaneous, achievements have neither component processes nor duration. This observation is supported by a contrast in the acceptability of time point predications, illustrated below.

(8)   a.   He realized the significance of her remarks in a split second.
        b. # He was realizing the significance of her remarks for a split second.

Adverbials of momentaneous occurrence such as *in a split second* are sometimes cited as evidence for the non-durativeness of achievements, as in (8a). Such adverbials have the form of expressing duration, but express a single moment. I propose that the contrast between (8a) and (8b) indicates that *in* adverbials do not literally express duration. Rather, the literal meaning of such statements is that the event occurred by the end of the stated interval, and the duration reading follows by implicature, assuming that the most informative interpretation of such a statement is that the stated interval is the minimum interval within which the event occurred. This is compatible with the delayed onset reading found with *in* adverbials applied to states and processes as in (6b) above. Because of the distributivity of atelic predicates, even if the whole of an atelic event does not fall within the stated interval, an event of the kind described does fall within it, so long as the whole event begins within the interval.[6] A telic predicate, on the other hand, describes the event as including its culmination, and so an event of the kind described does not fall within the stated interval unless the whole event is contained in it, which gives the usual total duration reading for accomplishments. Even so, a duration implicature is available only if the event is durative.

A process predicate (including progressives of accomplishments) with a *for* adverbial gives the duration of an event in a different way, by direct measurement of the 'constituent event matter'. The difference can be compared to two ways of describing physical volume. The *in* adverbial is comparable to saying that a portion of milk fits in a one-litre jar, with the Quantity implicature that it fits with no room to spare. The *for* adverbial is comparable to saying that the milk comprises one litre of fluid. The real-world information conveyed is the same, but the statements are not literally identical. Returning to the contrast in (8), I conclude that achievements can be indirectly said to have duration or total size, albeit zero duration, by being described as fitting exactly in a time point. But they cannot be converted into constituent event matter for measurement because they have no process component.

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[6] An anonymous referee points out that it is also important that an atelic event doesn't end within the interval of an *in* adverbial. This is certainly so in *The room was dark in an hour*, but I am not sure whether any particular account, apart from inference based on world knowledge, is required. I note here also that the onset delay reading of *in* adverbials is available for all aktionsart with the future tense:

(i)   John will drive to the mall in an hour.   accomplishment
(ii)   Maria will notice the smell in a minute.   achievement
(iii)   The children will be hungry in an hour.   state
(iv)   The children will watch TV in a few minutes.   process

The diagnostic is more reliable with past tense sentences.

I have said that a *for* adverbial expresses a measure on a process, including the component process of an accomplishment denoted by the progressive. Measurement of component process by a *for* adverbial can be used to distinguish the component processes of accomplishments from the preliminary circumstances of a culmination achievement, also denoted by the progressive. First, the preliminary circumstance progressive is illustrated in (9b,c) below, contrasted with a component process progressive in (9a). Conjoined with a future clause apparently describing the same event, the preliminary circumstances progressives in (9b,c) must be interpreted as futurative. Preliminary circumstances at speech time are compatible with the event itself being in the future. The accomplishment progressive in (9a) is interpreted as denoting a component process at speech time, which clashes with the future predication on the whole event in the second clause.

(9)   a.   #   He is building a garden shed right now and will probably build
                 it this afternoon.
        b.   He is reaching the summit now and will certainly reach it
                 before the other climbers.
        c.   The flight is now arriving at Gate 10 and will arrive in one
                 minute.

The preliminary circumstance progressive of an achievement predicate is incompatible with a *for* adverbial as shown in (10b) below, although the period of imminent occurrence is measurable, as in (10a).

(10)   a.   He was about to reach the gate for several seconds.
        b.   #   He was reaching the gate for several seconds.

Finally, Mittwoch (1991, p. 76-7) notes that the 'forward-looking' sense of the progressive with some achievement predicates is excluded with continuative *still* and in the complement to aspectual verbs such as *stop, continue*, and *start*, as illustrated in (11). These aspectual modifications are well-formed with process progressives – that is, the progressives of activity and accomplishment predicates. Note that (11b) has a well-formed reading with concessive *still*, roughly 'Bates was about to reach the gate nevertheless', but is anomalous on the temporally continuative reading relevant here; similarly for (11d).

(11)   a.   #   She started reaching the summit just after noon.
        b.   #   Despite sniper fire, Bates was still reaching the gate.
        c.   #   Despite sniper fire, Bates continued reaching the gate.
        d.   #   The flight is still arriving at Gate 10.
        e.   #   The flight continued arriving at Gate 10.

To sum up, *in* adverbials literally express the containment of an event in an interval, with the duration reading provided by implicature. A *for* adverbial, on the other hand, directly measures component process or 'event matter'. Not

all progressives denote component processes – progressives which do not denote component processes include the interpretive progressive and the preliminary circumstances progressive. Non-process progressives are distinguished from the component process progressive by *for* modification, *still* modification and construction with such verbs as *stop* and *continue*.

The next section applies these diagnostics to predicates in the host-parasite relation.

6. HOSTS, PARASITES, DURATION AND PROCESS

As stated above, I assume that with the predicates of interest here the host and parasite to some extent co-occur. Criterion parasites, associated with the *in*+interpretive progressive frame, have the same interval of occurrence as the host. This is consistent with König's claim that an interpretive progressive is evaluated at the same interval as the clause whose denotatum it redescribes. Causative upshot parasites, like perlocutions, include a caused effect which may be delayed after the causative action, and so the host and parasite may have different intervals of occurrence. Nevertheless, if the caused outcome develops gradually over the course of the causative action, the host and parasite largely overlap in time. It is shown in this section that, despite the partial or complete temporal overlap, hosts and parasites occupy the shared time differently.

6.1 Criterion predicates

The assumption that a criterion parasite shares its interval of occurrence with the host is supported by (12). The host–parasite relation is established in (12a), and the duration of the host event is reported in (12b). Both the *in* adverbial and the *take* construction in (12c,d) give the total duration for the criterion parasite mistake-making, based on the host limerick-reciting, rather than expressing delay; neither (12c) nor (12d) is interpreted as saying that Jones made a mistake at the end of fifteen seconds.

(12)   a.   In reciting the limerick Jones was making a dreadful mistake.
           b.   It took Jones just fifteen seconds to recite the limerick.
           c.   It took Jones just fifteen seconds to make a dreadful mistake.
           d.   In just fifteen seconds Jones made a dreadful mistake.

In short, *make a mistake* takes duration modification, and the mistake-making event is durative. Generally, as in (7) above, actual duration implies a component process measurable by a *for* adverbial, but as shown in (13a) below, the parasite predicate lacks measurable process. The host event, in contrast, has a measurable process as in (13b).

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(13)   a. #   Jones was making a mistake for just fifteen seconds.
          b.   Jones was reciting the limerick for just fifteen seconds.

The host and parasite also differ in aspectual modifications which target a component process, as in (14) below. The aspectual modifications are fine with the host event in (14a,b), but anomalous with the parasite event as in (14c,d). Note that (14c) is fine on the concessive reading, irrelevant here.

(14)   a.   He is still reciting the limerick.
          b.   Despite catcalls, Jones continued reciting the limerick.
          c. #   He is still making a dreadful mistake.
          d. #   Despite catcalls, Jones continued making a dreadful mistake.

I conclude that although the parasite shares the interval of occurrence with its host, and is not idealized to a moment, it does not have any component process. Non-zero duration is not sufficient for internal structure.[7]

Similar effects are illustrated for criterion *break his promise* in (15) below. The host-parasite pairing is expressed in (15a), and (15b,b') shows that both predicates can be modified for whole duration. The contrasts in (15c-e') show that the parasite *break his promise*, unlike the host *read the letter*, resists modification targeting the component process.

(15)   a.   In reading the letter he was breaking his promise.
          b.   It took him five minutes to read the letter.
          b'.   It took only five minutes to break his promise.
          c.   He continued/stopped reading the letter.
          c'. # He continued/stopped breaking his promise.
          d.   He is still reading the letter.
          d'. # He is still breaking his promise.
          e.   He was reading the letter for five minutes.
          e' #. He was breaking his promise for five minutes.

In addition to the 'proposition match' predicates here, there are criterion predicates which lexicalize the host, such as *miscount*, hosted by *count*, and *typecast*, hosted by *cast*, as illustrated in (16) below. For the *count/miscount* examples, assume that a single counting which came out wrong is reported, and that a particular error in the course of counting was not detected. Note that the anomalous examples are fine on the iterated reading, irrelevant here.

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[7] The interpretive progressive can appear alone, in which case it may give the appearance of a frame progressive. As Jones declaims the first line I can say to him (i), which looks like the frame progressive in (ii). I propose that (i) is actually an interpretive progressive with the reading in (iii). The overt frame progressive in (iv) is odd.

(i)   You're making a mistake.
(ii)   You're talking too loudly.
(iii)   In doing what you are currently doing you are making a mistake.
(iv) ?? He was making a mistake (i.e. reciting the limerick) when she entered the room.

(16)　　a.　　　　He is still counting the votes.
　　　　a'.　#　He is still miscounting the votes.
　　　　b.　　　　He was counting the votes for three hours.
　　　　b'.　#　He was miscounting the votes for three hours.
　　　　c.　　　　She is still casting the play.
　　　　c'.　#　She is still typecasting the play.
　　　　d.　　　　She was casting the play for two weeks.
　　　　d'.　#　She was typecasting the play for two weeks.

Although *count the votes* is telic, the criterion which makes the count a miscount is its wrongness, which isn't dependent on the count being complete. Similarly with *typecast* – although *cast the play* is telic, the criterion that establishes typecasting is the style of matching players to roles, which is not dependent on the casting being completed. As shown below, these predicates are odd with both *in* and *for* adverbials, so according to the diagnostics their telicity is indeterminate.

(17)　　a.　#　He miscounted the votes in/for two hours.
　　　　b.　#　She typecast the play in/for two weeks.

Ryle's quasi-dual *migrate* (and *emigrate*, *immigrate*; also his achievements *misspell*, *miscalculate*) belong here. For *migrate*, the host is a journey and the criterion is that it instantiates a change of habitat. We can say *The swallow continued flying south (into the rising wind),* but not *The swallow continued migrating*, except in the irrelevant iterative sense.

6.2　　Criterion predicates with complex hosts

So far, I have considered 'proposition match' criterion parasites with examples in which the criterion specifies a single action, and accordingly, a specific host realizes the parasite definitively – Jones promised not to read the letter, and once he has read the letter, he has broken his promise. If he had promised to read the letter, once he had read the letter he would have kept his promise.

But a promise doesn't always specify a particular single action. It may specify a series of actions, as in (18a) below, or it may specify the absence of a type of action, as in (18b). For both (18a) and (18b), promise-keeping can be reported as in (18c), with what appears to be a process progressive. In this section I argue that (18c) is actually not a process progressive.

(18)　　a.　　　　Jones promised to drink a pint of milk every day.
　　　　b.　　　　Jones promised not to drink alcohol.
　　　　c.　　　　Jones continued keeping his promise for five months.

Consider first the issue of a promise specifying multiple events, as in (18a). For ease of discussion, I confine the scope of the promise to a specific period as in (19a) below. Supposing that Jones kept his promise, (19b) is true, and said about times during June, (19c) is true.

(19)   a.   Jones promised to drink a pint of milk every day during June.
           b.   Jones drank a pint of milk every day during June.
           c.   Jones continued keeping his promise.

The issue at hand is the nature of the progressive in (19c). The interpretation of this progressive depends on the structure of the host-parasite relationship. Overall, there is one promise, which specifies 30 milk-drinkings, and presumably the event of keeping the promise is the sum event of the 30 milk-drinkings. In other words, the sum event of the 30 milk-drinkings hosts a single promise-keeping event. If this is the only pairing of milk-drinking host with promise-keeping parasite, then the progressive in (19c) should denote an internal part of a single promise-keeping event, and so it would appear to be a process progressive.

But in addition to being kept overall, the promise can be said to be kept on a daily basis. Each milk-drinking has the property of complying with the promise[8], and as the examples in (20) illustrate, promise-keepings can be said to occur individually on particular days. (20a) is true just in case Jones drank a pint of milk on Monday and Wednesday, but not on Tuesday; similarly for (20b).

(20)   a.   Jones kept his promise on Monday and Wednesday (but broke it on Tuesday).
           b.   Jones has kept his promise today.

Distributive quantification with *every* (see Vendler 1967, p. 70-96) also shows that individual daily milk-drinkings host individual daily promise-keepings, as shown in (21). Given the promise, each milk-drinking hosts a promise-keeping.

(21)   'Jones promised to drink a pint of milk every day' entails
           Jones drank a pint of milk every day $\leftrightarrow$ Jones kept his promise every day

I conclude that where a promise specifies a series of actions, each event in fulfilment of the promise has the property of being *a* promise-keeping, although none of them is *the* promise-keeping event. The (total) promise-keeping event reported in *Jones kept his promise*, without adverbials indicating particular days, is the sum event consisting of 30 host-parasite pairings.

I return now to the progressive in (19c), *Jones continued keeping his promise*. Given that each milk-drinking hosts a promise-keeping, the progressive in (19c) denotes part of a series of promise-keeping events, rather than a single

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[8] Strictly, the promise is kept every time he drinks the first pint of milk on a given day, and any subsequent milk-drinking on the same day is irrelevant to the promise.

promise-keeping in progress. The progressive in (19c), then, is a progressive of iterated events.

The progressive of iterated events occurs with predicates that otherwise resist the process progressive, as illustrated in (22) below. In (22a), iterated degree augmentation allows the progressive of stative *know*, and in (22b) iteration allows the progressive of canonical achievement *discover*.

(22)　a.　　　Jones is knowing more and more daily.
　　　b.　　　Jones is constantly discovering webpages for lunatics.

Now consider negatively specified promises as in (23) below.

(23)　Jones promised not to drink alcohol for three months.

First, in the context of the promise being given, *Jones kept his promise* entails *Jones didn't drink alcohol for three months*, but the converse, that *Jones didn't drink alcohol for three months* entails *Jones kept his promise*, is more open to question.

For illustration, I assume the analysis of negation in Zucchi and White (1996, p. 338): "an event of John's not arriving is an e such that, for some time t, e is the fusion of all events that occur at subintervals of t and e does not contain an event of John's arriving as a part." Then *Jones didn't drink alcohol for three months* denotes an eventuality e which is the fusion of all events that occur at subintervals of a given three-month interval, and e does not contain an event of Jones' drinking alcohol as a part. This definition includes scenarios in which, immediately after making the promise, Jones is injured and spends three months in hospital, without any access to alcohol, or alternatively, he is marooned without supplies on a desert island. In these cases, although it is certainly true that he didn't drink alcohol for three months, it is open to question that he kept his promise. Because he had no opportunity to break his promise, we might say that the issue of keeping it or breaking it did not arise, or at most, that he kept it inadvertently.[9]

In contrast, where Jones actively refrained from drinking alcohol for three months, declining invitations to bars and choosing fruit juice at parties, there is no question that he kept his promise. But in addition to the negative description *Jones didn't drink alcohol for three months*, this scenario can also be reported in *Jones constantly refrained from drinking alcohol for three months*, a description which cannot apply to the desert island or hospital scenarios.

Bearing in mind the distinction drawn here, between the simple absence of events of a given kind and repeated acts of refraining on the other, I return

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[9] I note also that according to the definition here, an event of Jones' not drinking alcohol may occur at an interval in which Jones dies near the beginning of the interval. In this case my intuition is that we cannot say he kept his promise inadvertently, only that the issue didn't arise at all.

now to the chief point at issue, the interpretation of the progressives in (24) below.

(24)   a.   Jones continued keeping his promise for three months.[10]
          b.   Jones was still keeping his promise.

In the context of Jones actively refraining from drinking alcohol, (24a) and (24b) are both fine. But both are anomalous as reports of Jones' non-drinking in the hospital or desert island scenarios.

I conclude that the progressives in (24) in the active refraining scenario denote part of a series of refraining actions, each one hosting a promise-keeping. Note that an individual abstaining act can be described as a promise-keeping: *In declining an invitation to cocktails/in choosing fruit juice yesterday Jones was keeping his promise*. Where a negatively specified promise is weakly fulfilled by the mere absence of events of a certain kind, there is no series of individual promise-keepings, and the iterated event progressive is anomalous. The iterated event progressives here are not counter-examples to the general claim that these predicates lack process progressives.

6.3   Causative upshots

As noted in section 4.2, the characteristic frame expressing the relation between parasite and host for causative upshots is the *by* locution. In contrast to criterion predicates, the causative parasite is not realized simply in the occurrence of the one action performed, but requires also a consequential upshot. Given this difference, the causative action *treat with iron tonics* in (25) below does not include the upshot required in *cure the patient*: the host for *cure the patient* is the combination of treating and consequential recovering. But assuming that Jones' administering treatment and Harris' gradual recovery were concurrent, the parasite occurs over the same interval as the causative action, or at least at a largely overlapping interval, which is sufficient for the data here.

(25)   Jones gradually cured Harris of anaemia in four months by treating him with iron tonics.

Both the causing action by Jones and the caused recovery of Harris can be expressed as measurable processes, as in (26a) and (26b), but the curing cannot, as in (26c).

(26)   a.   Jones was treating Harris with iron tonics for four months.
          b.   Harris was recovering for four months.
          c. # Jones was curing Harris of anaemia for four months.[11]

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[10] With these examples, the possibility arises that a control sense of *continue* requires an agentive sense of *keep his promise*, excluding the inadvertent promise-keepings outlined above. But the contrast claimed here is also found in (24b) with *still*, where control or raising senses of aspectual verbs are not involved.

Aspectual modification with *still* and aspectual verbs shows the same contrast: They are acceptable with *treat* and *recover*, as in (27a) and (27b), but not with *cure*, as in (27c).

(27)   a.   Jones is still treating Harris with iron tonics.
                 Harris is still recovering from anaemia.
         b.   Jones continued treating Harris with iron tonics.
                 Harris continued recovering from anaemia.
         c. # Jones is still curing Harris of anaemia.
            # Jones continued curing Harris of anaemia.

Again, an event predicate which is compatible with protracted duration cannot form a component process progressive. The same effects are found with Austin's perlocution *convince*, also cited as an upshot achievement by Ryle, as illustrated in (28).

(28)   a.   Jones continued presenting the evidence to Harris.
           # Jones continued convincing Harris.
         b.   Jones was presenting the evidence to Harris for an hour.
           # Jones was convincing Harris for an hour.

Perhaps unexpectedly, by aspectual criteria *kill* also belongs in this group, as illustrated in (29). Suppose that Jones killed Harris by beating him over the head, and that it took Jones ten minutes to kill Harris. The causative action *beat* has a process progressive as in (29a,b), but *kill* cannot, as in (29c,d).

(29)   a.   Jones was beating Harris for ten minutes.
         b.   Jones continued beating Harris.
         c. # Jones was killing Harris for ten minutes.
         d. # Jones continued killing Harris.

6.4   Durative achievements

Sections 6.1-6.3 explored the aspectual properties of certain predicates, selected on the basis of Ryle's discussion of the spuriously dual nature of an action and its upshot. The data show that these predicates have a combination of properties which are apparently not accommodated in a Vendlerian classification.

Generally they are compatible with *in* adverbials, which indicates that they are telic. The exceptions are *miscount* and *typecast*, which have indeterminate telicity. Where an *in* adverbial is acceptable, it has an event duration reading, showing that the denoted events are durative. But duration notwithstanding, these predicates cannot form a progressive denoting a component process.

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[11] Ryle suggests that *cure* can be used in a process sense: 'a doctor may boast that he is curing his patient's pneumonia, when his treatment does not in fact result in the anticipated recovery' (p. 143). I concur with Mittwoch (1991, p. 83, fn. 3) in disputing this point.

I claim that the lack of a component process progressive is the essential characteristic of these predicates, and that it identifies them as achievements.

There are two main objections to classing these predicates as achievements. First, canonical achievements are momentary, as in Piñòn (1997) and references cited there. Second, canonical achievements are non-agentive: they cannot be modified by adverbs such as *deliberately*, nor appear in the complement to verbs such as *decide* and *persuade*. The predicates at issue vary in compatibility with agentive contexts. Although *cure* is anomalous with *deliberately*, *keep/break his promise* and others are fully agentive.

On the first point, the intuition that the denoted event lacks duration is not the primary diagnostic by which a predicate is classified as an achievement predicate. The chief diagnostic for an achievement predicate is the lack of a process progressive. Focussing on the most familiar achievement predicates, such as *discover*, *find*, *spot*, and so on, the observation that these predicates denote momentary events provides an explanation for the lack of a process progressive – a zero-dimensional event cannot have a process. I concur with this view. But in principle, zero-dimensionality of the denoted event is not the only possible reason for an event predicate to lack a process progressive. Sections 7 and 8 below give an account of the lack of a process progressive with the predicates at issue.

On the second point, the relationship between the thematic property of agentivity and aspectual classification is complex. Despite general correlations between non-agentivity and states and canonical achievements, overall (non-)agentivity does not coincide exactly with aspectual classes. For example, Dowty (1979, p. 184) concludes that all four of Vendler's classes have both agentive and non-agentive members. Nevertheless, canonical achievements such as *arrive* and *discover* are strongly non-agentive.

Piñòn (1997, p. 281) attributes the non-agentivity of canonical achievements to their lack of duration. He writes: "Intuitively, it is reasonable to think that any sort of intentional activity or *act* takes time, if only a short time. Since instantaneous eventualities have zero duration, they lack the temporal *extent* required for intentional activity." As we have seen, the predicates at issue in this paper are not durationless, and so the possibility of agentivity is left open.

To conclude, I have identified a class of predicates which denote durative events but lack a process progressive. I take the lack of a process progressive to be criterial for achievements, and shall term these predicates **durative achievements**. Durative achievements and momentary achievements share the criterial property of lacking a process progressive. Momentary achievements have no process progressive because a component process cannot occur in a zero-dimensional event. In addition, adopting Piñòn's view, a zero-dimensional event cannot have an agent. Durative achievements, on the other hand, are sufficiently complex to allow for agentivity. The lack of a process progressive with criterion predicates is addressed in the next section. Process progressives and causative upshots are discussed in section 8.

**7.	CRITERION PREDICATES, STAGE-LEVEL AND INDIVIDUAL-LEVEL PREDICATES ON EVENTS**

In this section I shall argue that criterion predicates are individual-level predicates on events, and that this explains their lack of process progressives. I review stage-level and individual-level predication in the next two sections, and emphasise the central property relevant here, that stage-level predication with respect to a particular argument selects a temporal part of that argument, while individual-level predication predicates of the argument entity as a whole. In sections 7.3 and 7.4 I argue that the event argument of an event predicate is also subject to the stage/individual distinction, and show that the process progressive is a predicate on a temporal part of the event argument, hence a stage-level predicate on the event. Criterion predicates as individual-level predicates on events are reviewed in section 7.5.

## 7.1	State descriptions and properties; stage-level and individual-level predicates; thetic and categorical propositions

Milsark (1977: 12-13) drew attention to the difference between what he called *state-descriptive* predicates, which denote 'states, conditions in which an entity finds itself and which are subject to change without there being any essential alteration of the entity', and *property* predicates, which 'denote what might be called properties of the entities of which they are predicated'. Property predicates 'are descriptions which name some trait possessed by the entity and which is assumed to be more or less permanent, or at least to be such that some significant change in the character of the entity will result if the description is altered'. Milsark showed that property predicates require strong NPs as subjects, while state-descriptive predicates take both weak and strong subjects.

Carlson (1977) analyses the distinction as a difference between predicate types, selecting different types of argument as subject. He draws on long-standing observations about the metaphysical difficulties of identifying a concrete individual over time: "Heraclitus noted that a person cannot step in the same river twice, for the river (as well as the person) is not, in terms of its physical composition, the same from one instant to the next" (Carlson 1977: 110-1). Carlson argues that the whole individual is made up of spatio-temporal stages, and it is these spatio-temporal stages which participate in events and episodes such as those reported in *She hit a home run* or *She was hungry*. The individual as a whole is the bearer of non-episodic properties like those predicated in *She is tall* or *She looks like a chipmunk*. Accordingly, Carlson analysed state-descriptive predicates as *stage-level predicates*, taking stages of individuals as arguments, and property predicates as *individual-level predicates*, taking whole individuals as arguments. Even where Carlson's formal analysis is not adopted, as Ladusaw (1994: 221) comments, his terminology for the distinction has become standard.

Carlson uses the distinction he draws to account for the different interpretation of indefinite singular NPs and bare plurals. As illustrated in (30) below, an indefinite subject is interpreted existentially with a stage-level predicate (*available*) and generically with an individual-level predicate (*intelligent*).

(30) a.   A doctor is available.
              'There is a doctor available.'
      a'.   Doctors are available.
              'There are some doctors available.'
      b.   A doctor is intelligent.
      b'.   Doctors are intelligent.
              Doctors in general are (typically) intelligent.

In Carlson's analysis a kind is a sort of individual, and an indefinite NP is interpreted as denoting a kind to satisfy the selectional restrictions of an individual-level predicate.

Ladusaw (1994) argues that stage-level and individual-level predicates correlate with thetic and categorical judgments (or propositions), taken originally from Brentano (1874, 1924) and developed by Kuroda (1972, 1992). In a categorical, or double, judgment, an entity is presented to the attention and then a property is attributed to it. In a thetic or single judgment, a state of affairs is simply presented 'all at once', and the participants are included as part of the presented state of affairs. Ladusaw argues that property predications (i.e. with individual-level predicates) are categorical, and this is why they must have strong NP subjects, including generics – the presentation of an entity as subject of a categorical judgment requires a strong NP, with the 'presuppositional' character that such NPs express. A thetic judgment, on the other hand, simply presents an eventuality. The existence of this eventuality is asserted directly, but the existence of any participants in the eventuality is asserted only indirectly, insofar as the occurrence of the event requires them to be involved.[12] Ladusaw proposes (p. 224) that an indefinite argument in a thetic judgment (with a stage-level predicate) is interpreted as a description restricting a parameter in the eventuality description. Then the existential reading of the indefinite NP stems from existential closure over the event, also obliquely entailing the existence of a participant satisfying the indefinite description.

Under Ladusaw's proposal, the correlation of individual-level predicates with strong subjects (including generic indefinites), and stage-level predicates with existential indefinites, is not a basic property of the predicates, but is derived from the kind of proposition the predicates appear in. The basic difference, from which the restrictions on NP forms and interpretations follow, is that between predicating a property of an entity, and asserting the existence of an eventuality (with or without independent reference to the participants).

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[12] Strictly, the existence of a participant denoted by an indefinite NP is only indirectly entailed as described. A sentence expressing a thetic judgment may contain a strong NP, in which case the existence of the entity may be directly entailed by the interpretation of the NP.

Ladusaw emphasises the contrast between the presuppositional interpretation of subjects of individual-level predicates, and the existential interpretation of indefinite subjects of stage-level predicates. The thetic/categorical difference also correlates with the temporal distinction in interpreting arguments emphasised by Milsark and Carlson. An individual-level predicate in a categorical proposition not only takes the subject as 'given' or 'presupposed', but also characterizes the entity in a non-eventive or non-episodic way. No particular spatio-temporal location apart from that of the bearer of the predicated property can be inferred. Although the existence of entities such as people and concrete objects is in fact located in time and space, the subject of an individual-level predicate is not presented as spatially or temporally located. We can infer temporal limits from an individual-level predication. For example, *Robespierre was a lawyer* predicates a property which was true of Robespierre from the time he qualified or began practice, but not during his childhood, while *Saint-Just had blue eyes* predicates a property which was true of Saint-Just from the time his eyes formed in the womb. However, our knowledge of these temporal limits on the property-bearing comes from world knowledge, and the temporal limits are not part of the truth conditions of the predicating sentences. An individual-level predicate attributes a property to an entity 'as a whole'.

A stage-level predicate in a thetic proposition, on the other hand, reports an event, located in time and space. The entities involved in the event, arguments of the predicate, are presented as located in time and space with respect to their participation in the event, though the actual existence of the participant entities commonly extends beyond the event. To the extent that a stage-level predicate predicates on a participant entity, it predicates on a temporal part of the whole entity, or more accurately, on a dated realization of an entity which is part of a potentially more extensive entity. This contrast, between predicating of an entity as a whole and predicating of an entity as a temporal part of a potentially more extensive entity, remains central to individual-level and stage-level predication, and will be discussed further below.

7.2   Stage-level and individual-level are relativized to arguments

The association between categorical judgments and individual-level predicates also serves to clarify another issue. A categorical judgment has two parts, the subject and the predicated property. If the predicate is intransitive (*John is intelligent*), the subject is the only argument and so by default the predicate is individual-level for all its arguments. However, a transitive predicate may be individual-level for the subject and stage-level for the object, as illustrated in (31) below.[13]

(31)   Beavers build dams.

The proposition attributes a dispositional or habitual property to the kind of beavers, and is individual-level for the subject. But the object *dams* is existentially interpreted, and this is like the existential interpretations of indefinites in thetic

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[13] Carlson (1979, p. 289-95) analyses (31) and related examples, raised in Chomsky (1975).

propositions. The property of being a dam-builder rests in some sense on the actual or potential existence of dam-building events.[14] Setting aside for the moment the actual or potential status of such events, (31) can be partly represented by (32).

(32)   [Gen x: Beaver(x)] $\exists_{e,y}$ (Dam(y) & Build(x,y,e))

Pragmatic considerations and world knowledge constrain the interpretation of the generic quantifier *Gen*, determining in this case how many beavers must build dams to warrant predicating the dam-building property of the kind. Given a contextual interpretation for *Gen*, for each of a number of beavers the existence of dam-buildings is asserted. This assertion is thetic in character, and the existence of a dam for each dam-building is only obliquely entailed as part of the event. With respect to *dams* the predication is stage-level.

The important point to note here is that a predicate need not be stage-level or individual-level *tout court*. The stage-level and individual-level classifications are relativized to the arguments of a predicate. If a predicate has more than one argument it may be stage-level for one and individual-level for another.[15]

7.3   The event argument

The distinction between stage-level and individual-level predicates as reviewed so far is primarily a distinction between eventive and non-eventive predicates. Focussing on this point, Kratzer (1988/1996) argues that stage-level predicates, being episodic or eventive, have a Davidsonian event argument which individual-level predicates lack.[16] The event variable can be bound by quantification, which accounts for the difference in acceptability between (33a) and (33b) below (Kratzer's (15a,d), (15'a,d), p. 129-30). Briefly, the universal quantification expressed by *when* must bind a variable in both clauses of the logical form. In (33a), *Mary* and *French* are names, and the individual-level predicate *knows* has no event variable, so there is no free variable for the quantifier to bind and the sentence is anomalous. In (33b), however, the stage-level predicate *speaks* introduces an event variable (*l* for spatio-temporal location) which is bound by the quantifier, accounting for the well-formedness of the sentence and the interpretation 'Every event/occasion of Mary speaking French is an event/occasion of Mary speaking French well'.

(33)   a. #   When Mary knows French, she knows it well.
                 Always [knows(Mary, French)] [knows-well(Mary, French)]
         b.   When Mary speaks French, she speaks it well.
                 Always [speaks(Mary, French, l)] [speaks-well(Mary, French, l)]

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[14] The relationship between dispositional and habitual predication and the existence of events of the kind described is extremely complex – see Krifka et al. (1995) and references cited there for discussion.

[15] See also Eckardt (1998, p. 151-2) for related observations.

[16] For Kratzer, given that a predicate either does or does not have an event argument, the stage-level or individual-level classification is not relativized to or defined in terms of participant arguments.

I shall assume a Davidsonian event argument for all event predicates, and accept Kratzer's view that predicates with an event argument are stage-level for the participant arguments. It follows that all the predicates I have identified as criterion predicates, such as *make a mistake*, *break a promise* and *miscount*, are stage-level for the participant arguments. The discussion in section 6 above shows that they share some of the temporal properties of the events which host them, and Kratzer's analysis of quantificational *when*-clauses also indicates that these predicates have an event variable, as illustrated in (34) below, which is well-formed and has the interpretation 'Every event/occasion of John's miscounting is an event/occasion of his miscounting badly'.

(34)   When John miscounts, he miscounts badly.
        Always [miscount(John, l)] [miscount-badly(John, l)]

The point I pursue here is that for all the criterion predicates under consideration, the event itself is an argument of the verb. The inclusion of an event argument raises the issue of how such predicates are classified with respect to the event itself. I have argued in section 7.2 above that stage-level and individual-level classifications are relativized to arguments, and a predicate may be stage-level for one argument but individual-level for another. So even though the predicates at issue are stage-level for the participant arguments, they may be stage-level or individual-level for the event. The next section argues that a process progressive is a stage-level predicate for the event.

7.4   Process progressives and stage-level predication

For the event argument, the progressive aspect denotes a part or 'time-slice' of a potentially more extensive whole event. The notion that the progressive denotes part of a larger event is found in almost all descriptions and formal analyses of the progressive, particularly those based on Dowty's (1979, p. 149) definition, shown in (35), with a gloss added.[17]

(35)   [PROG φ] is true at $<I, w>$ iff for some interval I' such that $I \subset I'$ and I is not a final subinterval for I', and for all w' such that $w' \in Inr(<I, w>)$, φ is true at $<I, w'>$.
        " A progressive sentence [PROG φ] is true at an interval I and a world w if and only if for some interval I', such that I is a proper subinterval of I' and I is not a final subinterval for I', and for all w' such that w' is a member of the set of inertia worlds for I and w, φ is true at I' and w'. "

For example, *Mary is crossing the street* is true at an interval I, a proper and non-final subinterval of interval I', and at a world w iff *Mary cross the street* is true at I' in all inertia worlds for I and w. An inertia world is a world in which things

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[17] An analysis of the progressive as converting an accomplishment predicate to a process, as in Moens (1987, 2001, p. 54) is expressed in terms of removing the culmination. I consider that this also treats the progressive as denoting part of a potentially larger whole.

continue on their present course after the time *I* denoted by the progressive. The intuition is that progressive *crossing the street* denotes part of a complete street-crossing, even though the street-crossing spoken of may be interrupted and never completed in actuality – *Mary is crossing the street* is true at a time *t* even though Mary is about to be hit by a car and will never reach the other side. Inertia worlds are intended to formalize the notion that, had things continued unfolding as they were without the interruption of the car, eventually Mary would have crossed the street. The analysis of the modal character of the progressive has been developed considerably (see, for example, Asher (1992), but for the present purpose, Dowty's definition serves to illustrate the central point, that a process progressive picks out a temporal part or time-slice of a larger event, although part of the larger event may be unrealized.

Although a modal analysis for the potential continuation of an event denoted by a progressive is primarily aimed at dealing with telic predicates, the notion of potential continuation also applies to atelic predicates. Briefly, *Jones was walking* is true of a time when, had things continued 'inertially', Jones would have gone on walking.

Entailments discussed by Kenny (1963, p. 175), illustrated in (36) below, show that the time-slice of an event denoted by a progressive excludes not only the possible continuation, but also the initial part of the whole event.[18]

(36) a. Jones is walking $\rightarrow$ Jones has been walking.
      b. Jones is eating an apple $\rightarrow$ Jones has been eating an apple.

To sum up: the process progressive denotes a temporal part of a larger event entity, which exists earlier than the part denoted by the progressive, and potentially endures beyond it. Accordingly, following the distinction argued for in section 7.1, the process progressive is stage-level for the event. In contrast, a simple tensed sentence such as *Jones ate an apple* or *Jones will paint the fence* denotes an event as a whole, and I assume that these predications are individual-level for the event. Most event predicates (accomplishments and processes) are freely used in both stage-level (process progressive) and individual-level (non-progressive) forms.[19]

I have said that the process progressive picks out a proper part of a larger event. This is particularly evident in examples such as *Jones was making coffee when Mary arrived*, in which the progressive denotes a momentary time-slice of the coffee-making event, coincident with the arrival. More needs to be said about the progressive with a *for* adverbial, as in (37a) below, repeated from (7) above. Given that (37b) expresses the duration of the whole event, it isn't evident that the progressive in (37a) picks out a proper part of the event.

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[18] The entailments in (36) are subject to considerations of 'grain size' or homogeneity of the denoted process: see Taylor (1977) for discussion.
[19] Carlson (1979, p. 302) observes that only stage-level predicates (in my terms, stage-level for the participant arguments), can take the progressive. But event predicates are stage-level for the participant arguments in non-progressive forms as well – *Jones left* is stage-level for the subject.

(37) a. This program was processing the data for five minutes.
      b. This program took five minutes to process the data.

The analysis of the *for* adverbial is the key here. Along the same lines as Dowty (1979, p. 87) and Mittwoch (1988), I assume that a *for* adverbial expresses universal quantification over times in the interval, and that this quantification has scope over the event description, as indicated in (38) below.

(38) [∃I: 5 minutes(I)] [∀t: t ∈ I] the program was processing the data at t

Here, what I earlier described as direct measurement of 'event matter' is analysed in terms of distributed placement throughout a measured (one-dimensional) location.[20] Within the scope of the *for* adverbial, the progressive denotes times-slices of the event located at points within the interval, and is stage-level.

7.5   Criterion predicates and properties

What is intrinsically parasitic about criterion predicates, such as *make a mistake*, *break a promise*, *miscount*, *break the law*, and so on, is that the eventualities described cannot simply come about, but must be realized in the occurrence of some event which is describable in different terms. In the example in section 6.1 above, Jones' breaking his promise was realized in the event of Jones reciting a limerick, and could not have been realized without a limerick-reciting by Jones. But the limerick-reciting could have occurred independently, without also being a promise-breaking, had Jones not given the relevant promise.

The 'real' or basic event is the host limerick-reciting, and promise-breaking is just a property characterizing that event. A simple report *Jones broke his promise* entails the independent existence of an event which had the property of being a promise-breaking, but could have occurred without having that property, although it could not have occurred without being a limerick-reciting. The same relationship appears in the property predication *Jones is tall*. Jones could have been Jones without being tall, but his tallness couldn't be instantiated without Jones.

The property-predicating nature of criterion predicates can sometimes be expressed transparently in paraphrases such as those in (39) below, with the associated Davidsonian representations.

(39) a. Jones broke the law.
          'Jones did something, and what he did was illegal'

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[20] The treatment of measurement as placement throughout a measured location can be generalized to measures of mass substances such as *a litre of milk*, discussed in section 5.2, as follows: there is a three-dimensional location with a volume of one litre, and at every point in that location there is milk. See Moltmann (1991) for discussion of distributed location and measure adverbials.

$\exists e\ (do(j,e)\ \&\ illegal(e))$

b.   Jones made a mistake.
'Jones did something, and what he did was mistaken'
$\exists e\ (do(j,e)\ \&\ mistaken(e))$

c.   Jones miscounted.
'Jones counted, and what he did was inaccurate'
$\exists e\ (count(j,e)\ \&\ inaccurate(e))$

Isolating the property-predicating component of these predicates clarifies why they are individual-level. Explicit comparisons are given in (40) below. Supposing that (40a) is true, (40b) is ill-formed as a description of the event, in comparison with *Jones continued reading the document*. The ill-formedness of (40b) is the same as the ill-formedness of (40c): (40c) and (40d) are both instances of a process progressive with an individual-level predicate. Criterion predicates, then, resist the process progressive because they are individual-level for the event, and the process progressive is stage-level for the event.

(40)   a.   In reading the document Jones was breaking the law.
        b. # Jones continued breaking the law.
        c. # Jones' action continued being illegal.
        d. # Jones continued being tall.

With verbal predication on events the event argument is not syntactically projected as an NP.[21] Consequently, the presuppositional effects underlying restrictions on strong and weak NPs as subjects of the property predication do not arise. The only correlate of the independence or 'presuppositionality' of the subject of an event property predication is the entailed existence of the host as discussed above: the parasite depends on the host but not vice versa.

8.   CAUSATIVE UPSHOT PREDICATES, ACCOMPLISHMENTS AND PROCESSES

The host-parasite relation of causative upshots (*cure*, *convince*, and possibly *kill*) is quite unlike that of criterion predicates. In section 6.3 I used causative upshot predicates paired with 'means' hosts in order to emphasise the contrast in process progressives between the causative upshot and the means by which it was brought about.

But a causative upshot is not intrinsically parasitic in the way a criterion predicate is, as indicated by their different pairing frames: the *by* frame with a non-progressive for causative upshots (*Jones convinced Harris by showing him the evidence*), and the *in* frame with an interpretive progressive for criterion predicates (*In reciting the limerick Jones was breaking his promise*).

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[21] The event may be projected as an NP in some light verb constructions – see Kearns (1988, 1997) and Mittwoch (1998) for discussion.

A causative upshot is not a property borne by an event that might have occurred without that property. If we identify the host of *Jones convinced Harris*, for example, in the same way as we identify the host for a criterion predicate, the host must include not only the showing of evidence but also the caused state of Harris' conviction. It is only in the conjunction of the evidence-presenting and the caused conviction that what *Jones convinced Harris* describes is realized. But such an event could not occur without being a convincing of Harris by Jones. This contrasts with criterion predicates, as noted above: Jones' limerick-reciting is all that is needed to realize the promise-breaking, but it could have occurred without being a promise-breaking.

So a causative upshot is not a separable property predication on an independently identifiable event – rather it is a basic event predicate, denoting a caused change of state.

Apart from the process progressive, *cure, convince* and *kill* resemble accomplishments. They are modifiable by *gradually*, indicating that the caused change of state may come about by degrees. The gradual nature of the caused change of state is also evident with *almost* modification. Dowty (1979, p. 58-9) observes that *almost* has two readings with accomplishments. For example, *John almost painted a picture* may mean that John was about to paint a picture, but ultimately didn't, or that he began painting a picture and didn't quite finish it. *Almost* with achievements (*John almost noticed the painting*) has only the reading that John was about to notice the painting but didn't. With *kill*, *almost* has both the readings noted here, but with *cure* and *convince* most naturally has only the reading that Dowty considers peculiar to accomplishments. *Jones almost cured Harris of his prejudices* is most naturally understood to mean that Harris was partly but not completely cured of his prejudices, not that Jones ultimately did nothing.

In addition, *cure*, *kill*, and *convince* are compatible with *in* adverbials and the *take* time construction expressing event duration, both considered characteristic of accomplishments.

All three verbs, then, denote caused, durative, gradual, telic changes of state. Nevertheless, they do not have the inflectional behaviour of accomplishments – the process progressive cannot be used to denote a proper part of the event. Accordingly, I have classed these predicates as durative achievements.

I tentatively suggest that the difference between accomplishments and causative upshots, especially *cure* and *convince*, despite their apparent temporal similarities, lies in Ryle's notion of upshots as special kinds of outcomes, which are not the same as the culminations of accomplishments.

Consider first accomplishments such as *cross the street*. The denoted event consists of a process, which if left to carry on inertially will eventually culminate. Although the event of Mary's crossing the street is subject to infinitely many possible disruptions, nevertheless, if disruptions external to the event itself, such as speeding trucks, heart attacks and so on, are excluded, Mary will get to the other side. In

excluding disruptions external to the process in progress, we focus on what Mary is doing, or what is happening to Mary.

Consider now a causative upshot like the event of Jones curing Harris. If we focus on what Jones is doing, that is, treating Harris with iron tonics, even assuming the absence of any interruptions external to the event itself, the upshot of Harris' being cured is not in any way an inertial continuation or outcome. This is the point emphasised by Ryle which makes a curing lucky or successful. There is no sense in which the mere continuation of administering treatment will lead, all else being equal, to a cure.

One obvious consequence of this difference is that accomplishments may be agentive but *cure* and *convince* are non-agentive. I suggest that an additional consequence is the aspectual difference between accomplishments and causative upshots. An accomplishment predicate denotes an event which is conceived of as a process with a natural or inertial culmination, and given the inertial status of the culmination, a culminated and unculminated process are still broadly the same kind of event. A *crossing the street* process is just an unfinished *cross the street* accomplishment. Accordingly, both can be denoted by the same predicate stem.

A causative upshot predicate, on the other hand, denotes the causal pairing of an action with an upshot that is not an inertial development or culmination of the action. The completion or success of the whole event is not inertially related to its 'in-progress' stages, and so the in-progress stages of such an event are not broadly the same kind of event as the complete action+upshot complex. In short, an unrealized cure is not any kind of curing event.[22]

The judgment that a lexicalized outcome (that is, someone is cured or convinced or induced to do something) is less inertially given or expected than the completion of an event like crossing the street is subject to individual variation. As Ryle comments (p. 143), " a doctor may boast that he is curing his patient's pneumonia, when his treatment does not in fact result in the anticipated recovery." Austin (1962/1975, p. 105ff.) also comments on what he calls the proleptic use of perlocutionary verbs such as *persuade*. We can loosely say *I was persuading him for hours but he was adamant*. However, the difference between *persuade* and the illocutionary verb *urge* shows up in *while he was unsuccessfully urging me /# persuading me*, where the overt denial of a successful outcome is incompatible with the progressive of a perlocutionary verb, one type of causative upshot predicate.

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[22] *Cure*, *convince* and *kill* lexicalize definite final endstates – one can be completely or absolutely cured, convinced or dead. In this, causative upshots line up with change of state verbs based on closed ranges, compared with change of state verbs based on open ranges, such as *lengthen* or *shorten* – a thing cannot be completely long or completely short. Hay et al. (1999) argue that closed range change of state verbs are telic, and that Dowty's (1979, p. 88) degree achievements are based on open ranges. The central characteristic of degree achievements is that the non-progressive form may be either telic or atelic (*The soup cooled in/for five minutes*). However, a closed-range base for a change of state verb does not bar the possibility of a progressive form denoting a process. Both *empty* and *full* are closed range adjectives, but *Jones continued emptying/filling the sack* are fine, as are *Jones was emptying/filling the sack for five minutes*. The type of telicity associated with a closed-range base does not account for the lack of a process progressive.

The oddness of *He was unsuccessfully persuading me* contrasts with examples such as *Mary was crossing the street but never got there*, where the denial of a culmination does not affect the well-formedness of the process progressive.

I conclude that the contrast between inertial culmination and non-inertial upshot determines the distributivity of the event description expressed by a predicate stem. For an accomplishment, consisting of a process with an inertial culmination, to say that both the (unculminated) process and the completed event are broadly the same kind of event is to say that the description expressed by the predicate stem is distributive. But the success or upshot component of a causative upshot predicate strictly does not distribute to the action which may or may not be crowned with success. Consequently, the predicate stem of a causative upshot is not distributive, and resists the process progressive.

CONCLUSION

As above, a wide range of predicates discussed by Ryle show a certain kind of semantic complexity which I have called quasi-duality. Ryle's main purpose was to argue that the apparent duality of such predicates should not be analysed in terms of two events or actions conjoined – such predicates denote a single event, but with an 'extra' component of predication on that event, generally, what Ryle calls an upshot. An upshot is not itself an event or action.

Some predicates express only the upshot, as in Ryle's *journey and arrive*, where *journey* expresses the event proper and *arrive* expresses the upshot of that event. Although *arrive* does not express both event and upshot, the predicate may still be considered a quasi-dual in that the main event is presupposed. An upshot cannot occur without the event of which it is the upshot. The imperfectly eventive character of *arrive* as an upshot predicate is consistent with the view that a culmination achievement denotes the final boundary of an event. As boundaries presuppose the objects or regions they bound, so a culmination achievement presupposes the event it culminates. Pure upshot predicates such as *arrive*, along with onset boundary predicates such as *realize* and *discover*, (Piñòn's (1997) right and left boundary happenings, respectively) comprise most of the predicates generally classed as achievements in a Vendlerian system. Their aspectual peculiarity arises out of their lack of temporal extent.

In this paper I have focussed on the more substantial quasi-duals which express both the event and the upshot, under two main types, criterion predicates and causative upshot predicates. Taking the lack of a process progressive as criterial, I have classed them as achievements. Unlike boundary achievements, these predicates express both event and upshot, and are durative. I use the term *durative achievement* to distinguish them from momentary achievements.

I have argued that criterion predicates are property predicates on the event as a whole, and are thus individual-level for the event. The process progressive is not only stage-level for NP arguments, but also for the event argument. Consequently, a

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predicate which is lexically individual-level for the event is incompatible with the process progressive.

Causative upshots are more difficult to evaluate. I have suggested that the difference between accomplishments and causative upshots lies in the difference between an inertial culmination and an '(un)lucky' upshot. Given the natural or inertial character of an accomplishment culmination, the incomplete accomplishment process and the complete accomplishment are similar, apart from the culmination itself. Accordingly the same predicate stem can denote both part of the event and the whole event – the predicate stem is distributive. But given the non-inertial character of an upshot, the internal stages of an event of curing or convincing are not the same sort of event as the successful whole. The predicate stem is not distributive, and cannot form a process progressive.

I conclude with futher tentative remarks concerning stage-level and individual-level predicates on NP arguments and on events. As noted above, a stage-level predication on an NP argument is eventive or episodic, while an individual-level predication on an NP argument, attributing a property to the argument, is not eventive or episodic. Given that all predications on an event are eventive by definition (that is, they have an event argument), the distinction cannot apply in the same way. I suggest that the distinction between stage-level and individual-level collapses to some extent for event arguments.

Suppose that 'basic' event predicates such as *eat an apple, walk, wake up*, and so on express event sortal properties. Most such predicates can denote the whole event or a temporal part of it, modulo progressive morphology. They are not lexically fixed for either stage-level or individual-level predication. Presumably a basic event predicate cannot express a distinction which is elsewhere partly based on a contrast between events and non-events. In this they differ from sortal predicates for NP arguments, as in *Jones is a mechanic*, which are non-eventive and individual-level. I suggest that 'basic' or sortal event predicates are not lexically specified as stage-level or individual-level for the event argument. The difference between predication on a stage and predication on the whole is expressed by aspectual modification, including the progressive. Among event sortal predicates, although most are distributive, a few, including causative upshots, are non-distributive – the in-progress stages of such an event are not the same kind of event as the whole event. Criterion predicates, however, express descriptive properties of events rather than sortal properties. It appears that this difference underlies their behaviour as individual-level, property predicates.

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