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A Minimalist Analysis of Stage Level and Individual Level Predicates

SATU MANNINEN

1 Introduction

In the same way as nouns come in two types – nouns like *dog* and *cat* refer to objects which are countable, while nouns like *water* and *gold* refer to objects which are uncountable - it is often proposed that predicates fall into two natural classes: those that express temporary, transient properties and events, and those that express more permanent, unalterable properties and characteristics. In (1), for example, being drunk and kissing someone are typically interpreted as temporary properties or events which take place in a particular place at a particular time: John was drunk last night in his office, or he kissed Mary on Sunday 13th of May, 2001, at 2:13pm, for exactly 8,56 seconds. Contrastingly, in (2), if one is intelligent or in love, one tends to retain these properties for a relatively long period of time. Although one's mental capacities may change due to accidents and illnesses and although one may well fall out of love, this does not change the fact that these properties are *potentially* stable and long-lasting:

- (1) a. John was drunk
b. John kissed Mary
- (2) a. John was intelligent
b. John loved Mary

Predicates expressing temporary properties and events are called *stage level predicates*, while predicates expressing more permanent properties and characteristics are *individual level predicates* – see e.g. Milsark (1974), Carlson (1977), Diesing (1992), Kratzer (1995), and Krifka et al (1995). A number of grammatical phenomena have been shown to be sensitive to the stage level – individual level distinction. As shown by (3), only stage level predicates can appear within small clause complements of perception verbs and, as shown by (4), absolute constructions can be paraphrased by conditional clauses only if they are based on stage level predicates – cf. Stump (1985). A further distinction, shown in (5), is that usually only (verbal) stage level predicates can appear in the progressive form:

- (3) a. I saw John drunk
b. I saw John kiss Mary
c. ??I saw John intelligent
d. ??I saw John love Mary
- (4) a. Drunk, John can enjoy the linguistics conference
= If John is drunk, he can enjoy the linguistics conference

b. Intelligent, John can enjoy the linguistics conference
If John is intelligent, he can enjoy the linguistics conference

- (5) a. John was kissing Mary
b. ??John was loving Mary

The phenomenon that will be most relevant for the purposes of this paper is that only stage level predicates can co-occur freely with place and time adverbials – (6c-d) and (7c-d) are odd because a property that is normally interpreted as holding of an individual over an extended period of time is forced to hold only temporarily, in just one particular place or time:

- (6) a. John was drunk in his office
b. John kissed Mary in his office
c. ??John was intelligent in his office
d. ??John loved Mary in his office
- (7) a. John was drunk last night
b. John kissed Mary last night
c. ??John was intelligent last night
d. ??John loved Mary last night

The aim of this working paper is to explore if, and how, the distinction between stage and individual level predicates can be made, in a meaningful way, within the Minimalist framework of Chomsky (1995; 1999; 2000) and related work. In particular, we will examine if this distinction is present already in the lexicon, or if it is made when the predicate is selected for the numeration (or, for the Lexical Array LA, to use Chomsky's 1999, 2000 terminology). The paper is structured as follows: in section 2 we look at some previous analyses of stage and individual level predicates which are of relevance. In section 3 we propose a Minimalist analysis of these predicates which, we hope, avoids the problems of the earlier analyses. In section 4, we discuss the relation between the different types of predicates and their ability to appear freely with place and time adverbials. In section 5 we summarise the results.

2 Stage Level and Individual Level Predicates

The distinction between stage and individual level predicates goes back to Milsark (1974) and Carlson (1977) who argue that they characterise properties of two different types of entities: stage level predicates characterise properties of *stages*, while individual level predicates characterise properties of *individuals*.¹ A stage is a spatio-temporally bounded manifestation of something: it is a “space-time slice” of an individual, Carlson (1977, 128) argues, and at any given place or time there can be only one stage available for any given individual, for the sentence to be true or false of. On this view, a predicate like *be drunk* in (1a) denotes a set of ‘being drunk’ stages, and the sentence *John was drunk* is true iff one of John's stages is in that set (i.e. iff one of John's stages is a ‘being drunk’ stage). A predicate like *be intelligent* in (2a) refers to a permanent property or characteristic that an individual named John used to have: it denotes a set of individuals, and the sentence *John was*

¹ Carlson (1977) divides individuals further into *objects* and *kinds*. Objects correspond to particular objects like *John* and *my dog*, kinds to generic (kind-referring) NPs like *dogs*. As this distinction is not relevant for the purposes of this paper, we will not go into it here – for more discussion, see e.g. Carlson (1977), Krifka et al (1995), Krifka (1995), and Wilkinson (1995). Although genericity is attributed to two distinct but related phenomena, namely generic NPs and generalising sentences, we focus here on the latter aspect only.

intelligent is true iff John, rather than one of his stages, is in that set. Note also that, because permanent properties or characteristics of an individual have often a tendency to last for most part of that individual's life, the past tense in (2a), unlike the past tense in (1a), suggests that John might no longer be alive.

Rather than being always purely stage level or individual level, Carlson (1977, 118ff.) has proposed that predicates can be *ambiguous* between the two readings. (8a-b), for example, can pick out a particular past event or situation in which John was engaged in smoking grass or drinking whisky, or they can denote a particular permanent property or *habit* that an individual named John used to have (i.e. John was a person who smoked grass or drank whisky habitually – again the past tense suggests that John might no longer be alive, or that he has given up these permanent habits for some other reason: John smoked grass habitually in the 1970s, before he had met his future wife, for example).²

- (8) a. John smoked grass
b. John drank whisky

The fact that (8a-b) can be assigned both stage level and habitual readings suggests that, rather than a two-way distinction, we might be dealing with a *three*-way distinction between predicates: while stage level predicates pick out specific spatio-temporally bounded events or situations (i.e. specific “space-time slices” of an individual), individual level predicates are divided into **(a)** *habitual* predicates, which express generalisations over a large number of recurring stage level events or situations, and **(b)** *property* predicates, which describe properties which are characteristic of an individual over an extended period of time. Although both habitual and property predicates are individual level predicates in the sense that they characterise permanent, unalterable properties of individuals, they also differ in important respects: first, the truth of a habitual reading of a sentence is determined by the existence of a large number of recurring stage level events or situations in which the individual in question is engaged in the activity expressed by the predicate – see e.g. Krifka et al (1995, 37ff.). The truth of the habitual readings assigned to (8a-b), for example, is determined by the existence of recurring past events in which John is engaged in smoking grass or drinking whisky. However, the truth of a property reading of a sentence is not determined in this way, by the existence of recurring stage level events in which the individual is engaged in the activity expressed by the predicate (but see Krifka et al 1995, 37ff.). Rather, a property reading always refers to just one long-lasting, continuous state.

A related issue is that habitual readings are not necessarily falsified by the existence of stages in which the individual is not engaged in the activity expressed by the predicate: the habitual readings of (8a-b) can be true even if John smoked grass or drank whisky just once a month, as long as he did it *regularly* once a month. However, the property readings assigned to (2a-b) are always falsified by the existence of even one single stage in which John was not intelligent or did not love Mary: crucially, John is not allowed to switch back and forth between being intelligent and not being intelligent, or between loving and not loving Mary.

² In English, temporary events are typically expressed by progressive verb forms, while permanent properties and habits are expressed by the simple forms. However, even in English the simple forms can be used to express temporary present, past or future events (e.g. the reportive present, past, or future uses). In languages like Swedish and Finnish, the stage level vs. individual level distinction is not visible in the form of the verb: the Swedish *John drack whisky* and Finnish *John joi viskiä* ‘John drank whisky’ are equally ambiguous between a stage level and an individual level reading. As we are interested in the universal phenomenon behind the verb forms, rather than the (language-specific) verb forms, we will not go into the uses of the English progressive and simple forms here.

2.1 The Generic Operator *Gen*

In the preceding discussion, we have seen that predicates could fall into three, rather than just two, natural classes. If there are three classes, then where are their properties determined – in the lexicon, or when they are selected from the lexicon, for the numeration? On the other hand, if they fall into just two classes, as is often assumed, the question that arises is how these classes can give rise to the three different types of interpretations discussed above. In this sub-section, we will firstly discuss some previous attempts to solve this puzzle. Secondly, because habitual individual level predicates express generalisations, quantifying over a large number of stage level events in which the individual in question is engaged in the activity expressed by the predicate, it has been proposed, e.g. by Krifka et al (1995, 37), that there must exist a corresponding homophonic stage level predicate for each habitual individual level predicate. Our aim is to determine whether habitual predicates and the corresponding homophonic stage level predicates are separate items of the lexicon, or whether we are dealing with one and the same lexical item in both cases.

Carlson (1977, 283ff.) is among the first to discuss the fact that habitual predicates have homophonic stage level predicates but property predicates usually lack them. In Carlson's system predicates come in just two basic types: those that characterise properties of stages, and those that "are naturally properties of individuals." These basic types correspond to what we have above called stage level and property predicates. Carlson (ibid.) then argues that all predicates which apply to stages of individuals "can be made to apply to individuals (to have generic readings)." He posits a special generic operator *Gen* which is a function transforming stage level predicates into homophonic habitual individual level predicates. Assuming that (9a,c) represent the (simplified formal view of the) stage level readings of (8a-b), (9b,d) represent the habitual individual level reading of the same sentences – for a more detailed view of the semantics, see e.g. Carlson (1977) or Krifka et al (1995, 20ff.):³

- (9) a. smoke.grass(john)
 b. *Gen*(smoke.grass)(john)
- c. drink.whisky(john)
 d. *Gen*(drink.whisky)(john)

The generic operator *Gen* is also discussed in Chierchia (1995). Although his view of *Gen* is very different from Carlson's, he shares with Carlson the view that predicates come in just two basic types, namely stage level and property predicates, and the type of the predicate is determined already in the lexicon. Secondly, just like Carlson, Chierchia (1995, 197ff.) argues that each stage level predicate is free to occur or not occur, in the syntax, with a generic operator *Gen* which in his system is a phonologically null quantificational adverb appearing in the specifier position of an aspectual habitual functional projection, resulting in either a habitual individual level reading or a normal stage level reading, of one and the same predicate. In other words, a habitual individual level interpretation of a predicate arises only when the maximal projection of that predicate, e.g. the VP, is dominated by an aspectual habitual functional projection containing *Gen* or possibly some other quantificational adverb in its specifier position. The other quantificational adverbs, Chierchia (ibid.) argues, include phonologically overt adverbs like *habitually*, *usually*, and *often* which can only ever appear in

³ As discussed by Carlson (1977) the exact formulation of *Gen*, so that it would bring out the distinction between habitual individual level predicates and property predicates, is a difficult task and a full outline of it lies outside the purposes of this paper. For critique of Carlson's (1977) system, see Carlson (1989), Diesing (1992), Kratzer (1995), and Krifka et al (1995).

sentences with habitual individual level interpretations: sentences such as (10)-(11), for example, cannot mean that John was drunk habitually last night in his office, or that he kissed Mary usually on Sunday 13th of May, 2001, at 2:13pm, for exactly 8,56 seconds:

- (10) a. John was habitually drunk
b. John usually kissed Mary

- (11) a. John often smoked grass
b. John often drank whisky

Property predicates, Chierchia (1995, 198ff.) claims, differ from habitual individual level predicates in that they are always “inherently generic.” In his system this means that property predicates have a kind of generic feature built into their lexical entry which forces the presence of the generic operator *Gen* in their local environment, local corresponding to the maximal projection of the predicate, e.g. the VP: the generic operator appears in the specifier of VP and binds the property predicate. So, summarising the above discussion, Chierchia adopts Carlson’s view that predicates come in just two basic types, and the properties of these predicates are determined already in the lexicon. However, he also assumes that the two basic types of predicates can give rise to three different types of readings, depending on the presence and position of the generic operator *Gen* in the derivation: habitual readings arise when the maximal projection of a normal stage level predicate is dominated by an aspectual habitual functional projection hosting *Gen* (or some other quantificational adverb) in its specifier position, while property readings arise when a(n inherent) generic feature on the predicate forces the presence of *Gen* in its local environment (e.g. inside the VP).

Assuming, in line with Carlson and Chierchia, that predicates come in just two basic types, and that each stage level predicate can be turned into a homophonic habitual individual level predicate by means of the generic operator *Gen*, we now predict that sentences such as (1), repeated here as (12), are not assigned purely stage level readings after all, but that they are ambiguous between a stage level and a habitual individual level reading. This prediction turns out to be true: (12a) can either pick out a particular stage of John such that John was drunk in a particular place at a particular time, the preferred reading, or it can denote a permanent property or habit that an individual named John used to have: John was a person who was drunk habitually:

- (12) a. John was drunk
= John was drunk last night in his office
= John was habitually drunk

b. John kissed Mary
= John kissed Mary last Sunday at 2:13pm
= John kissed Mary habitually

In the same way, if we assume that the predicates of (2), repeated here as (13), are always inherently individual level (i.e. property) predicates, we predict that (13) can only ever be assigned property readings. But this time our prediction turns out to be false: although the property readings are clearly the most natural readings for (13), the stage level readings cannot be excluded completely either, provided that there is a special facilitating context for them. In (13a) we can imagine, for example, that John “has a double personality which involves switching his mental capacities on and off in an abnormal manner” (Chierchia 1995,

178), or else we can interpret John's being intelligent as synonymous to his *behaving* somehow in an intelligent way. In (13b) we can imagine, in turn, that John is able to switch back and forth between loving and not loving Mary in an abnormal manner, or alternatively we can interpret John's loving Mary as referring John's behaviour (how John *shows* that he loves Mary):

- (13) a. John was intelligent
= John was (always and without exception) intelligent
= John behaved in a really stupid way yesterday, but today he was quite intelligent
- b. John loved Mary
= John loved (always and without exception) Mary
= John really loved Mary yesterday: he brought her flowers and chocolates and even took her to the opera

The fact that (13) can be assigned stage level readings is unexpected within the line of reasoning outlined above: if the fact that being intelligent and loving someone are properties which are "naturally" characteristic of an individual over an extended period of time is determined already in the lexicon, then how is it possible for these predicates to lose their inherent genericity, so that they can give rise to a stage level reading in sentences such as (13)? One answer that comes to mind is that the property predicate 'be intelligent' and the stage level predicate 'be intelligent' might be two separate but homophonic items of the lexicon. But this line of reasoning would only take us back square one: the question of whether individual level predicates and their corresponding homophonic stage level predicates are separate items of the lexicon, or whether we are dealing with one and the same predicate in both cases. Before attempting to solve this puzzle in section 3, let us look briefly at the ability of the different types of predicates to co-occur with place and time adverbials.

2.2. Place and Time Adverbials

In section 1 we pointed out in passing that stage level predicates can, but individual level predicates cannot, co-occur freely with place and time adverbials. The data in (14)-(16) show, however, that both stage level and habitual individual level predicates can co-occur freely with such adverbials, but that property predicates can co-occur with them only when they are assigned a stage level reading (cf. (13)):

- (14) a. John was drunk in his office
b. John kissed Mary in his office
c. John was drunk in the evening
d. John kissed Mary in the evening
- (15) a. ??John was intelligent in his office
b. ??John loved Mary in his office
c. ??John was intelligent in the evening
d. ??John loved Mary in the evening
- (16) a. John smoked grass in his office
b. John drank whisky in his office
c. John smoked grass in the evening
d. John drank whisky in the evening

Let us begin by discussing the unproblematic cases first. (14) can be interpreted as referring to some particular past events or situations in which John was engaged in the activity described by the predicate, and this activity took place in John's office or on a particular evening. (14) can also be assigned habitual readings which imply that whenever there was a stage of John which was an 'in the office' or an 'in the evening' stage, then that stage was also typically a 'being drunk' or 'kissing Mary' stage – in other words whenever John was in his office, he was usually drunk, and on any typical evening, chances are that John was drunk. In the same way, the sentences in (16) are clearly ambiguous between a stage level and a habitual individual level reading: the stage level readings of (16) locate the activity denoted by the predicate as taking place in a specific place at a specific time (in John's office, or in the evening), while the habitual readings imply that whenever there was a stage of John which was an 'in the office' or 'in the evening' stage, then that stage was also typically a 'smoking grass' or 'drinking whisky' stage: whenever John was in his office, he usually smoked grass, and on any typical evening, John would probably be smoking some grass.

Turning now to (15) we have already seen in the previous sections that being intelligent and loving someone would typically be interpreted as properties which are characteristic of an individual over an extended period time. However, (15) show that the presence of the place and time adverbials forces a stage level reading on these sentences: (15) can only mean that John was able to switch back and forth between being intelligent and not being intelligent, and between loving and not loving Mary, in an abnormal manner, depending on his spatial and/or temporal location, or else we can interpret 'being intelligent' and 'loving Mary' as referring to John's behaviour (e.g. John behaved in an intelligent way when he was in his office, but in a rather stupid way in all other spatial locations). The property readings of (15) are barred because one and the same characterising property cannot hold of John both over an extended period of time, for all possible spatio-temporal locations, and only in a particular place or time. John cannot at the same time have the permanent, unalterable property of being intelligent in all places all the time, and of being intelligent only in his office or only in the evening.

This brief discussion of (14)-(16) shows that our original proposal (i.e. that stage level predicates can, but not individual level predicates cannot, co-occur freely with place and time adverbials) needs to be revised. In order to explain *why* both stage level and habitual individual level predicates can co-occur freely with place and time adverbials, while property predicates can only co-occur with them when they are used as stage level predicates, we could assume, following Chierchia (1995), that stage level predicates and their corresponding homophonic habitual individual level predicates start out as being one and the same member of the lexicon. We could further assume that this one single predicate combines with a place and/or time adverbial before the derivation reaches the level at which the aspectual habitual functional head is merged with the relevant maximal projection, and the generic operator *Gen* is inserted as the specifier of this aspectual habitual functional projection: if there is no aspectual habitual functional projection present in the derivation, we get stage level readings such as in (14) and (16), and if there is an aspectual habitual functional projection present in the derivation, we get corresponding habitual individual level readings of the same sentences. This line of reasoning would also allow us to explain why the place and time adverbials are necessarily inside the scope of *Gen*, so that they are interpreted as being parts of the generatisation. However, although this may seem like an attractive line of analysis, we cannot adopt it here before we have solved the problem of why the stage level readings of sentences like (13) and (15) are ever possible. As already noted above, if predicates like 'be intelligent' are always inherently generic, then how is it possible to use such predicates as stage level

predicates? Do these predicates somehow lose their inherent genericity (presumably before the place and time adverbials enter the derivation), or are we dealing here with property predicates which have corresponding homophonic stage level predicates, and only the stage level predicates can co-occur with place and time adverbials?

Before attempting to answer these questions in sections 3 and 4, let us look briefly at an alternative analysis of stage level and individual level predicates, to see where it leads us. Rather than characterising properties of two different types of entities (i.e. properties of stages and individuals, respectively) Diesing (1992) and Kratzer (1995) have proposed that the predicates differ in argument structure. Crucially, stage level predicates have, but individual level predicates do not have, an extra Davidsonian argument for events and spatio-temporal location: the role of this extra Davidsonian argument, Diesing and Kratzer argue, is to locate and/or delimit the property or event expressed by the predicate in space and time.⁴ Diesing and Kratzer further argue that the Davidsonian argument has the form of a variable, and that place and time adverbials quantify over it. This explains why stage level predicates can appear freely with place and time adverbials, but individual level predicates cannot: because they lack the extra Davidsonian argument, there is nothing in the sentence for the adverbials to quantify over and they violate the requirement for vacuous quantification (i.e. the requirement that for every quantifier Q there must be a variable V such that Q binds an occurrence of V – for more discussion, see e.g. Chomsky (1982) and Kratzer (1995).

However, on closer inspection we see that Diesing and Kratzer's system encounters the same problems as we have discussed before: first, it does not explain why habitual individual level predicates can co-occur freely with place and time adverbials, while individual level property predicates cannot. Clearly, the habitual predicates, although they are individual level predicates, ought also to have an extra Davidsonian argument which delimits the property in question in space and time. But how can they have this extra argument, when individual level property predicates cannot have it? Another closely related problem is that Diesing and Kratzer do not address the question of why sentences like (13) and (15) are ever possible – Kratzer (1995, 128) merely states that in such sentences an individual level predicate “has turned into a stage level predicate,” without going into the details of what it means for an individual level predicate to turn into a stage level predicate – is this something that happens when the predicate is selected for the numeration, or are we simply dealing with two distinct but homophonic items of the lexicon?

3 A Minimalist Analysis of Stage and Individual Level Predicates

In the previous section we have seen that, although predicates come in just two basic types, they can give rise to three different interpretations. We have also seen that the type of the predicate affects its ability to appear with place and time adverbials. In this section, we will propose an analysis for stage level and individual level predicates which is in line with the Minimalist framework of Chomsky (1995; 1999; 2000) and related work. Crucially, we will propose that the difference between stage and individual level predicates is a lexical one, and follows from the types of inflectional features found on the predicate head when it emerges from the numeration and enters the derivation. Secondly, we propose that these inflectional features can be either intrinsic, so that they are listed already in the lexical entry for the predicate, or optional, so that they are determined when the predicate is selected for the

⁴ Strictly speaking Kratzer (1995, 128) does not commit herself to saying that the extra Davidsonian argument is an event argument – rather, she (ibid.) claims that it may “simply be an argument for spatiotemporal location.” The way we see events, there is little difference between the two views. We will therefore continue to refer to this argument as an event(ive) argument.

numeration, for each occurrence of the predicate.

Let us begin by looking briefly at an analysis of verbal predicates which can only have transitive uses, comparing them with predicates which can have both transitive and intransitive uses:

- (17) a. John kissed Mary
b. *John kissed
c. John loved Mary
d. *John loved

- (18) a. John ran a marathon
b. John ran
c. John sang a lullaby
d. John sang

It has been proposed, e.g. by Chomsky (1995), Koizumi (1995), and Manninen (1999; 2001), that a lexical V, when it emerges from the numeration and enters the derivation, is specified for thematic or semantic features which determine the number and types of arguments that it requires. If a V is specified for “Theme” and agentive features, for example, then the sentence must contain (i) a light vP which is associated with the checking of these features, and (ii) two arguments which are merged as specifiers of these light vPs and assigned Theme and Agent theta roles, respectively.

Chomsky (1995, 225ff; 235ff; 277ff.) has proposed that the thematic or semantic features of V can be either intrinsic so that they are listed in the lexical entry for V or are determined by properties so listed, or optional so that they are added arbitrarily when the V is selected for the numeration. This has led Manninen (2001) to suggest that in verbal predicates like *kiss* and *love*, the feature determining that the V selects a Theme direct object might be intrinsic: it is listed in the lexical entry for *kiss/love* or is determined by properties (such as transitivity) so listed. So because *kiss/love* always have the “Theme feature,” the derivation must always contain (i) a relevant light vP and (ii) a Theme direct object – as shown by (17b,d), a derivation which lacks a Theme direct object is ill-formed. In verbal predicates like *run* and *sing*, however, the feature determining that the V selects a Theme direct object is optional: it is added arbitrarily when *run/sing* are selected for the numeration, for each occurrence of these verbs. This means, first, that the presence of the “Theme feature,” and consequently the presence of the relevant light vP as well as the Theme direct object, can vary from one situation to another. In (18a,c) the verbal predicate has the “Theme feature” and combines with a Theme direct object, while in (18b,d) it does not have this feature, and there can be no Theme direct object present in the sentence. Second, while the predicates *run/sing* in (18a,c) and (18b,d) constitute just one member of the lexicon, they are allowed to be distinct members of the numeration.

In the following, we will propose a similar line of analysis for stage level and individual level predicates: crucially, we argue that the difference between them is a lexical one, and follows from the types of inflectional features associated with the predicate head, when it emerges from the numeration and enters the derivation. The first question that we must address is what types of inflectional features we are dealing with. We would like to propose that there are two alternative paths to follow: we could be dealing with a generic feature [+gf] which distinguishes between inherently generic and non-generic predicates or, alternatively, with an eventive feature [+event], which distinguishes between inherently

eventive and non-eventive predicates.⁵ Following the first path first, we hypothesize, in line with Chierchia (1995), that predicates come in just two basic types: inherently generic predicates are associated with a generic feature [+gf] which is listed in the lexical entry for the predicate or is determined by properties so listed, while inherently non-generic predicates can only be associated with this feature arbitrarily, when the predicate is selected for the numeration, for each occurrence of the predicate. Crucially, when the predicate is added the feature [+gf] when it is selected for the numeration, it receives a habitual individual level reading, and when it is not added [+gf], it receives a normal stage level reading:

	Lexicon (inherent)	Numeration (optional)
Property readings	[+gf]	—
Habitual readings	—	[+gf]
Stage level readings	—	—

Table (1) Presence of the feature [+gf] on predicates

If [+gf] is a syntactic (rather than lexical) feature, it is possible to assume, in line with Chierchia (1995), that the derivation contains a generic functional or light v projection, and the specifier of this functional or light v projection hosts the generic operator *Gen* (or alternatively one of the other generic adverbs of quantification). One of the advantages with the line of reasoning pursued above is that it would allow us to distinguish stage level predicates from both habitual and property predicates, and habitual predicates from property predicates, by means of just one single feature. Second, in sentences such as (8) above, the stage level predicate and the corresponding homophonic habitual individual level predicate would be treated as one and the same item of the lexicon. However, the downside with the line of reasoning pursued above is again that, if property predicates like ‘be drunk’ are associated with the generic feature [+gf] already in the lexicon, then how are the stage level readings of sentences such as (13) and (15) ever possible? More specifically, how can the generic nature of the predicates be lost, or are we simply dealing with two distinct but homophonic items of the lexicon?

In order to solve this puzzle we hypothesize that, rather than generic and non-generic, the two basic types of predicates are (i) inherently eventive and (ii) inherently non-eventive predicates. More specifically, we argue that inherently eventive predicates are always associated with an eventive feature [+event] already in the lexicon (i.e. the presence of this feature is listed in the lexical entry for the predicate, or is determined by properties so listed). We further argue that, because [+event] is a syntactic feature, such predicates motivate the presence of an eventive light vP in the derivation – we would like to suggest that an eventive light vP must always be present if a predicate refers to temporary properties or events, or expresses generalisations over such properties or events.⁶ Although inherently non-eventive

⁵ There are various views of eventiveness and the nature of the eventive feature [(±)event]. Marantz (1997) for example has proposed that eventiveness is associated with a light vP in between a root “verb” and the lexical V, so that this light vP is what makes the root “verb” eventive, i.e. able to pick our specific spatio-temporally bounded events or situations. Although we will use the terms eventiveness and eventive feature [(±)event], we will not adopt any particular line of thinking behind them.

⁶ The fact that we talk about the eventive feature [+event], rather than just [event], suggests that there might be a distinction between [+event] and [-event], and consequently between an eventive and non-eventive light vP (i.e. that even property predicates combine with an event-related light v projection). We will not go into this

predicates are not associated with an eventive feature [+event] in the lexicon, we hypothesize that this feature may be added arbitrarily, when the predicate is selected for the numeration, for each occurrence of the predicate. In (13) and (15), for example, we propose that the eventive feature [+event] is not an intrinsic feature of the predicates ‘be intelligent’ and ‘love Mary’ – instead, it is added optionally when the predicates are selected for the numeration (presumably because of some pragmatic considerations, i.e. because of the choices and intentions of the speaker). This way, property predicates like ‘be intelligent’ and their corresponding homophonic stage level predicates can constitute just one member of the lexicon, but distinct members of the numeration/Lexical Array LA:

	Lexicon (inherent)	Numeration (optional)
Property readings	—	[+event]
Habitual readings	[+event]	—
Stage level readings	[+event]	—

Table (2) Presence of the feature [+event] on predicates

However, as shown by Table 2, positing just a single eventive feature [+event] does not allow us to distinguish between stage level and habitual individual level predicates. In order to bring out a distinction between these two types of predicates we propose, much in line with Cinque (1999) and related work, that besides [+event], habitual predicates are also associated with an aspectual habitual feature [\pm hab] when they emerge from the numeration and enter the derivation. We further propose that, although the habitual feature is available for all predicates already in the lexicon (and is possibly determined by some intrinsic properties of the predicates), its value (i.e. [+hab] or [-hab]) need not be determined until the predicate is selected for the numeration and enters the derivation – the line of reasoning we are pursuing here is parallel to that pursued in Chomsky (1995) who argues that, although nouns having number and verbs having tense follows from their categorial status as nouns and verbs which is determined already in the lexicon, the actual values for number and tense (i.e. [\pm plural] and [\pm past]) are not determined until the noun or verb is selected for the numeration, for each occurrence of that noun or verb. Just like other aspectual features, we then assume that the habitual feature [\pm hab] needs checking in an appropriate clausal functional projection. Although in English the feature [\pm hab] is not associated with a phonologically overt aspectual habitual morpheme on the predicate itself, it is very reasonable to suppose, again in line with Cinque (1999) and related work, that English has a phonologically *null* habitual morpheme which corresponds to the overt morphemes found, for example, in Swahili and Yareba, a non-Austronesian language spoken in Papua-New Guinea – the Swahili data in (19a) is from Dahl (1985, 37), and the Yareban data in (19b) is from Cinque (1999, 91):

- (19) a. Wanawake **hu-**fanya kazi ya kuchokoa pwesa Swahili
 women habit-do work of catching squid
 ‘The women (generally) do the work of catching squid’

distinction here, but simply assume that a predicate which has an (intrinsic or optional) eventive feature [+event] must always combine with an eventive vP, while a predicate which lacks an eventive feature does not combine with an eventive vP.

b. yau- r- edib- **eb-** a- su Yareba
 sit- CM- Freq- Hab- Res-3sgMasc
 ‘He (habitually and repeatedly) sits down’

The presence of an aspectual habitual functional projection in the derivation also allows us to explain why adverbials like *habitually*, *usually*, and *often* can only ever occur in sentences which are assigned a habitual individual level interpretation. In line with Cinque (1999, 166; 155; 178) we propose that such adverbials are inherently [+hab] and can only be merged as specifiers of an aspectual habitual functional projection which is also [+hab], so that there is agreement between the adverbials and functional heads. Because only habitual readings of stage level predicates can have a [+hab] aspectual habitual functional projection, it follows that only these readings are compatible with the adverbials (i.e. a [-hab] adverbial cannot combine with a [-hab] functional head – for feature based licensing of adverbials, see e.g. Alexiadou (1997), Cinque (1999), and Laenzlinger (1999)):

	Lexicon (inherent)	Numeration (optional)	Lexicon/ Numeration
Property readings	—	[+event]	[-hab]
Habitual readings	[+event]		[+hab]
Stage level readings	[+event]		[-hab]

Table (3) Possible combinations of features on a predicate

Assuming that the the feature [+hab] can only appear in predicates which are also [+event], it follows that a property predicate which is being used as a stage level predicates (so that it is added the feature [+event] when it are selected for the numeration) should also be able to receive a habitual individual level reading – although such readings are not the most likely ones, they are nevertheless available as long as there is a special facilitating context for them. (20a) implies that John is able to switch back and forth between being and not being intelligent, expressing a generalisation over a large number of recurring stage level events or situations in which John was intelligent, while (20b) implies that John is able to switch back and forth between loving and not loving Mary, expressing a generalisation over a large number of events or situations in which John loved Mary:

- (20) a. John is usually intelligent (but today he is behaving like a moron)
 b. John usually loves Mary (but today he has been behaving in a cruel and indifferent and unloving way towards her)

One may of course wonder what is the advantage of positing two distinct features, rather than just one, for determining the type of the predicate. Although it should be clear that the line of analysis pursued here, unlike the ones discussed in section 2, is able to account for even the data in (13) and (15), there are also other reasons to prefer it. We will discuss one important reason briefly in section 4.

4 Place and Time Adverbials

As we have seen in (12)-(14), repeated here as (21)-(23), only stage level predicates and

habitual individual level predicates can combine freely with place and time adverbials. Property predicates, in turn, can combine with such adverbials only when they are being used as stage level predicates – within the line of analysis proposed in section 3 this means that they are added the eventive feature [+event] when they are selected for the numeration:

- (21) a. John was drunk in his office
b. John kissed Mary in his office
c. John was drunk in the evening
d. John kissed Mary in the evening
- (22) a. ??John was intelligent in his office
b. ??John loved Mary in his office
c. ??John was intelligent in the evening
d. ??John loved Mary in the evening
- (23) a. John smoked grass in his office
b. John drank whisky in his office
c. John smoked grass in the evening
d. John drank whisky in the evening

As we have seen, the only difference between stage level and habitual individual level predicates, as opposed to property predicates, is that the former have an eventive feature and consequently motivate the presence of an eventive light vP in the derivation, whereas the latter lack an eventive feature and do *not* motivate the presence an eventive light vP. It therefore seems reasonable to suppose that there is a direct relation between eventiveness and the ability of a predicate to appear with place and time adverbials. One way to capture this direct relation is to hypothesize that place and time adverbials are merged as specifiers of eventive light vPs: because stage level and habitual predicates always have an eventive feature and consequently an eventive vP, there is always an appropriate specifier position in the derivation for place and time adverbials to be inserted into. However, because property predicates lack both an eventive feature and an eventive vP, there is no position in the derivation for place or time adverbials – in other words they fail to be properly licensed, in an appropriate light vP, so that there is agreement between the adverbials and the light v heads.

However, when a property predicate is being used as a stage level predicate, as it is in (13), (15) and (22) above, we have seen that the eventive feature [+event] can added to the predicate optionally, when the predicate is selected for the numeration, for each occurrence of the predicate. As the derivation must then contain an eventive light vP, there is again an appropriate specifier of light vP position where place and time adverbials can be inserted. Table (4) is a summery of the types of features that a predicate can have when it enters the derivation, and it also shows how these features are related to the licensing of adverbials in the appropriate specifier positions:

	Features	Place/Time advs in Spec/vP	Habitual advs in Spec/AspP
Property readings:			
be intelligent, love, ...	[-hab]	No	No
Habitual readings:			
Be drunk, kiss, smoke, drink,...	[+event], [+hab]	Yes	Yes
Stage level readings:			
Be drunk, kiss, smoke, drink, etc.	[+event], [-hab]	Yes	No
be intelligent, love, ...	[+event], [-hab]	Yes	No

Table (4) Combinations of features and the ability to licensed place/time adverbials

5 Conclusion

In this working paper we have proposed a feature-based analysis for stage and individual level predicates which is compatible with the Minimalist framework of Chomsky 1995; 1999; 2000). We have seen, first, that predicates exist in two basic types (i.e. eventive and non-eventive) in the lexicon. Eventive predicates are specified for an eventive feature [+event] which is intrinsic, while non-eventive predicates lack such features. Second, we have seen that, although non-eventive predicates lack the feature [+event], they may be added one optionally, when the predicate is selected for the numeration, for each occurrence of the predicate. This allows speakers to use typically non-eventive predicates as eventive predicates, when there is a special need for it.

One further goal of this paper has been to explain why eventive (i.e. stage level and habitual) predicates can, but non-eventive (i.e. property) predicates cannot, combine freely with place and time adverbials. We proposed that with eventive predicates, the derivation must always contain an eventive light vP: we further proposed that, because place and time adverbials are merged as specifiers of this eventive vP, they can only ever be present when the derivation contains an eventive light vP. Crucially, because only stage level and habitual predicates are specified [+event] so that they motivate the presence of an eventive light vP in the derivation, only they can co-occur freely with place and time adverbials.

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