Telicity and the Meaning of Objective Case*

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1.   Introduction

The link between telicity and accusative case is well documented in the modern semantic literature. Gillian Ramchand made the case for Scottish Gaelic, for example, and Paul Kiparsky for Finnish (Ramchand 1997, Kiparsky 1998). In this chapter, I will suggest that the same connection between telicity and accusative case can be detected in German, and probably in English as well. I will start out by presenting a syntactic and semantic analysis of the telicity effects associated with accusative in Finnish. Using Finnish as a guide, I will then introduce techniques for observing the same effects in German, a language that has no systematic choices for how it case-marks direct objects. I will also discuss some of the consequences of the proposed analysis for the meaning of inflectionless verbs. The verbs we see – with their inflections tucked on - might not be the items that are ultimately fed to the semantic interpretation component. We have to find a way to get to the properties

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of bare verb stems. Only then do we have a chance to gauge the contribution of verbal inflection. We have to solve Zucchi's problem of indirect access, then (Zucchi 1999).

According to Kiparsky 1998, case for direct objects in Finnish is determined at the VP level. Direct objects have partitive case if their VP is 'unbounded' and accusative case if their VP is 'bounded'[1]:

(1)   a.   Ammu - i - n   karhu - a.   Partitive
                 shoot - past -1sg bear - part
                 I shot at a bear.
                 I shot at the bear.

      b.   Ammu - i - n   karhu – n.   Accusative
                 shoot - past - 1sg bear - acc
                 I shot the bear.
                 I shot a bear.

(2)   a.   Ammu - i - n   karhu -j – a.   Partitive
                 shoot - past - 1sg bear - pl - part
                 I shot bears.
                 I shot at bears.
                 I shot at the bears.

      b.   Ammu - i - n   karhu – t.   Accusative
                 shoot - past - 1sg bear - pl - acc
                 I shot the bears.

(3)   a.   Ammu - i - n   kah-ta   karhu - a.   Partitive
                 shoot - past - 1sg two-part bear - part.
                 I shot at two bears.
                 I shot at the two bears.

      b.   Ammu - i - n   kaksi   karhu - a   Accusative
                 shoot – past – 1sg two-acc. bear – part
                 I shot two bears.
                 I shot the two bears.

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[1]   (1) to (3) are from Kiparsky 1998, p. 267, but are arranged differently.

Why should there be a connection between a semantic property of VPs and case morphology on direct objects? Where in the grammar could the link between, say, boundedness and accusative case even be stated? I will explore the idea that the connection between case and telicity might be provided by minimalist views on interpretable and non-interpretable features: Verbal inflectional features might be the interpretable counterparts of uninterpretable case features (Chomsky 1995, 2001, Pesetsky & Torrego 2001). If there are verbal inflectional heads corresponding to telicity, the relation between objective case and telicity is agreement. An uninterpretable feature [acc] on DPs agrees with its interpretable counterpart, a verbal inflectional feature linked to telicity. A major consequence of this proposal is that the telicity of a large class of verbs is now syntactically constructed. While differing in detail, the analysis proposed here builds on and confirms an important insight that Ramchand 1997 reached on the basis of Scottish Gaelic. According to Ramchand, the "claim here is that the notion of 'verb' is not a unified one, but consists of two logically separate constituents: a substantive core and an aspectual head. The parametric variation between languages consists in the different ways in which these two separate functions are morphologically instantiated."[2]

2.   **What an interpretable [acc] feature could do: A proposal**

While a syntactician might not think twice about positing an interpretable feature [acc] that is identical to [telic], such an assumption causes considerable headaches to the semanticist. She is expected to come up with a hypothesis about what that feature is supposed to do. She has to put a proposal on the table about the semantic division of labor between bare verb stems and an inflectional head linked to telicity, and is facing Zucchi's problem of indirect access at that point. Take verbs describing accomplishments. They are traditionally assumed to characterize both an activity or process and a target state as part of their lexical

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[2].   Ramchand 1997, p. 169.

meanings. The task ahead of us is to split those traditional meanings in two: One part is to stay with the stem; the other will go with [telic]. It will not do to take away the target state description, and charge [telic] with providing it. [Telic] cannot do any such thing. The description of target states is an idiosyncratic part of the meaning of the stems of accomplishment verbs. In contrast, the denotation of [telic] must be general enough to combine with all kinds of eventive stems.

Suppose the stems of accomplishment verbs have event arguments ranging over activities and processes. But in addition to describing those activities as, say, climbs or moves, they also might tell us something about where those events are headed to. A climb, for example may aim for the top of Mount Monadnock. Using terminology from Parsons 1990, the stems of accomplishment verbs might determine the culmination conditions for the events they describe. I propose we distinguish between culmination conditions and culmination requirements. Determining the conditions for culmination does not yet imply culmination. The conditions merely state what has to be the case if the events in question culminate. The feature [telic], could now invariably add the requirement that culmination occur. Here are two (simplified) sample entries for accomplishment stems and a possible denotation for interpretable [acc] (= [telic])[3]:

(4)   *Shoot-* $\lambda x \lambda e$ [shoot-at(x)(e) & $\square$ [culminate(x)(e) $\rightarrow$ hit(x)(e)]]

      Climb- $\lambda x \lambda e$ [climb-up(x)(e) & $\square$ [culminate(x)(e) $\rightarrow$ climb-to(top-of x)(e)]]

      [telic] $\lambda R \lambda x \lambda e$ [R(x)(e) & culminate(x)(e)]

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[3] .   Semantic types: Individuals e, propositions t, eventualities s. Variables: x_e, y_e, e_s, e'_s, e''_s, $P_{<st>}$, $Q_{<et>}$, $R_{<e<st>>}$. Stems that can produce 'target state adjectival passives' (Kratzer 2000) would have a state argument in addition to the event argument, and the characterization of the culmination condition would then have to include a target state description. I will neglect this issue here for convenience.

Following Marantz 1984, Kratzer 1996, and Pylkkänen 2002, external argument
are not taken to be arguments of their verbs in (4). Transitive verbs express
relations between individuals and events. In the case of *climb*, for example, the
relation holds between an individual x and an event e just in case e is an event of
climbing up x. The culmination condition for *climb* states that, necessarily, if the
event e culminates with respect to x, then e is a (completed) event of climbing to the
top of x. Likewise for *shoot*. The denotation of [telic] is a function that can apply to
the denotations of verbs like *climb*. Its only job is to require that the events
described by the verb culminate with respect to the referent of the direct object
argument. Applied to the denotation of *climb*, for example, the function yields a
relation that can only hold between x and e if the top of x is reached in e.

The predicate 'culminate' in the logical-conceptual representations of (4) is a two-
place predicate, and this distinguishes it from Parsons' notion of culmination. For
Parsons, culmination is a mere property of events. As pointed out in Zucchi 1998,
the problem with Parsons' proposal is that events never culminate *per se*. A
particular cleaning event, for example, might culminate as an event of cleaning my
kitchen, but might not reach culmination with respect to cleaning my house.
Likewise, my complete reading of chapter one of your thesis might be the same
event as my incomplete reading of your whole thesis. To account for the relativity of
culmination, the logical-conceptual predicate 'culminate' in (4) is relativized to the
direct object argument. Such an analysis incorporates a strong empirical claim
about the role of the direct object argument for the culmination condition. The
claim is that only direct objects can participate in defining culmination. This is one
way of capturing the insight of Tenny 1987 that the referent of a verb's direct object
typically 'measures out' the events described[4]. The proposal is also very much in

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[4]. The generalization will eventually have to be qualified in light of the discussion of measure
and degree phrases below.

the spirit of Ramchand 1997 since it allows [telic] to flesh out the role the referents of direct objects play in their respective events[5].

The account of telicity in (4) consists of a lexically determined condition on culmination that interacts with an inflectional head imposing culmination. It contrasts with the algebraic accounts of telicity developed in Krifka's work over the years[6] and adopted by many researchers in the field. Algebraic accounts use properties like 'quantization' to capture semantic properties such as 'telicity'. A property of events is quantized if whenever it is true of an event, it isn't true of any of its proper subevents. One of the properties traditionally used to diagnose telic VPs is incompatibility with durational adverbials. While algebraic accounts have been successful in picking out VPs that are or aren't compatible with durational adverbials, they do not quite give us the notion of telicity we need. Compare 5(a) to its conative alternant 5(b):

(5) a. Sie hat tagelang Fausthandschuhe gestrickt.
         She has for days mittens - Acc   knit.
         She knit mittens for days.

     b. Sie hat tagelang an Fausthandschuhen gestrickt.
         She has for days   at   mittens - Dat   knit.
         'She was knitting mittens for days.'

Conative alternations have properties similar to the Finnish alternations we looked at earlier. A case alternation correlates with an Aktionsart difference. The crucial observation is that 5(a) implies that there were mittens that she knit. The event

[5]. In contrast to Ramchand 1997, the present proposal does not require neo-Davidsonian association of the direct object argument. See Kratzer (forthcoming) for discussion of this issue.

[6]. E.g. Krifka 1992.

culminated in that sense[7]. In contrast, 5(b) does not have that implication. No

mittens need to have come into existence. In order to account for the essential

properties of the conative alternation, then, we have to be able to talk about

whether or not the events described satisfy the culmination condition determined by

the VP. Incompatibility with durational adverbials is not a test for telicity when

bare plural objects are involved. Both 5(a) and (b) are compatible with a durational

phrase.

A similar point can be made with respect to another widely used tool for diagnosing

telicity: modifiers like *in less than three days.* Those do pick out telic VPs in the

sense we are after, but that only shows that algebraic properties like quantization

don't. Neither one of the unmodified VPs in 6(a) and (b) expresses a quantized

property of events, for example.

(6)   a.   Sie hat in weniger als   drei Tagen wunderschöne
                 She has in less   than three days   wonderful

                 Fausthandschuhe gestrickt.
                 mittens - acc   knit
                 She knit wonderful mittens in less than three days.

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[7] .   For reasons of space, I will not be able to discuss the semantics of verbs of creation in any

detail. See Zucchi 1999 for what the major issues are. Compatible with verb denotations of the kind

displayed in (4) would be the following denotation for *knit*: $\lambda Q \lambda e \exists x[\text{knit}(x)(e)$ &

$\square [\text{culminate}(Q)(e) \rightarrow (Q)(x)]$]. The VP *knit a sweater*, then, would describe events e that can only

culminate if the thing knit is a sweater. This denotation assumes that creation verbs have direct

objects that express properties of individuals, as Zimmermann has proposed for verbs with

intensional object positions. Culmination would consequently be with respect to a property of

individuals. A particular knitting event might culminate with respect to the property 'sleeve', but

not with respect to the property 'sweater'. Since *knit* participates in a transitive/intransitive

alternation, the denotation considered here should not be basic, but derived.

b. * Sie hat in weniger als   drei Tagen an wunderschönen
      She has in less   than three days   at   wonderful

      Fausthandschuhen gestrickt.
      mittens - dat   knit
      'She was knitting wonderful mittens in less than three days.'

The denotations for the stems of accomplishment verbs given in (4) share with both Parsons' and Zucchi's denotations that they describe events that might or might not have culminated. It is this property that generates conative alternations. Zucchi 1999 considers the possibility that the non-culminating events in the extensions of accomplishment verbs might not be there from the very start, as assumed here, but might be 'generated' by the same operation that derives progressives in English. This proposal cannot easily accommodate the fact that the atelic meanings we find in conative alternations are not always exactly the same as the corresponding progressive meanings. Here are some examples illustrating subtle differences. Imagine a herd of buffaloes that is running towards you. You fire a shot to make them turn around and run in the opposite direction. In such a situation, 7(a), which has a progressive verb form, is false, but 7(b), which has the atelic alternant of the *shoot/shoot at* conative alternation, is true.

(7)   a.   I was shooting the buffaloes.

       b.   I shot at the buffaloes.

The meanings of 8(a) and (b) also differ in a subtle way:

(8)   a.   Nina was knitting a mitten.

       b.   Nina hat an einem   Handschuh gestrickt.
             Nina has at a-dative mitten   knit.

Suppose Nina was in the process of knitting an incomplete mitten as a prop for a movie. Since an incomplete mitten was needed for that particular movie, the mitten

never meant to be completed. I conclude that we have to distinguish between the atelic denotations found in conative alternations and those produced by operators related to viewpoint aspect (in the sense of Smith 1991) like the progressive operator in English. The atelic meaning components of accomplishment verb stems, then, might very well be basic.

The denotations in (4) also support a classification of eventive verbs widely accepted for English: Accomplishments, activities and processes, and achievements[8]. (4) illustrates the denotations of accomplishment stems within such a typology. According to the present proposal, their characteristic property is the presence of a culmination condition. We are now naturally led to expect two kinds of eventive verb stems that differ with respect to such a condition. The first kind would merely describe activities or processes without stating any condition for culmination. The second kind would already imply culmination, rather than merely state a condition. If this typology is right, we should be able to find telic verbs whose telicity is not syntactically constructed. We'll see shortly that those verbs exist. In German or English, the class of those verbs seems to coincide with the class of verbs that are traditionally called "achievement verbs". Our typology of eventive verb stems, then, looks as follows:

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[8]. Terminology is confusing in the area of Aktionsarten and aspect. Streitberg 1891 distinguishes between imperfective (or durative or continuative) and perfective (or resultative) Aktionsart. He argues for two types of perfective verbs: instantaneous and durative perfectives. Streitberg's instantaneous perfectives correspond to achievement verbs, and his durative perfectives correspond to accomplishment verbs in the now common English classification. I will use the pair 'telic'/'atelic' to mark Aktionsart differences, that is differences that have to do with whether or not culmination is implied. I will reserve the pair 'perfective'/'imperfective' to mark differences brought about by compositional higher aspectual operators. Those differences have to do with what I would like to call 'viewpoint aspect', following Smith 1991. According to the terminology I adopted, 'perfective' and 'imperfective' operators relate event times to the time we are talking about, the reference time. In this sense, they relate to the way events are 'viewed'. See also Filip 2000, who argues at length for drawing this kind of distinction for Slavic.

(9)   Accomplishments   Culmination condition

        Achievements   Culmination implication

        Activities & processes   No culmination condition or implication.

To summarize what we have so far, I have proposed a format for the denotations of accomplishment stems that predicts the possibility of conative alternations and makes it possible to use those stems for the syntactic construction of telic predicates. On the proposed analysis, the telicity of accomplishment verbs is produced by a culmination condition determined by the verb stem in interaction with an inflectional head that imposes that condition. I argued that telicity cannot be characterized via algebraic properties like quantization, as proposed by Manfred Krifka and much recent work. By granting the direct object argument an essential role in the determination of the culmination condition, it became possible to account for Tenny's generalization that direct object arguments 'measure out' the events a verb describes, and to do justice to Ramchand's insight that [telic] affects the very way the referents of direct objects relate to their events. I also considered and rejected Zucchi's proposal to use existing theories of the progressive to link the telic and atelic components in the denotations of accomplishment stems. Finally I made a suggestion about how to derive the traditional verb classification on the basis of verb denotations of the kind proposed in (4).

Turning to the syntax of telicity, Figure 1 below gives an example of a structure built from the transitive verb stem *climb*, the inflectional head [telic], and the DP *The Matterhorn*[9].

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[9].   I am neglecting at this point the possibility that verbs might enter the syntactic derivation fully inflected. If they are, those pieces of inflection would be meaningless and would have to be matched by possibly meaningful inflectional features heading their own projections within the hierarchy of inflectional heads. The essence of my account would not be affected by that possibility.

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                              VP
              [acc]
              (= [telic])

                   The Matterhorn          climb-
                      [acc]
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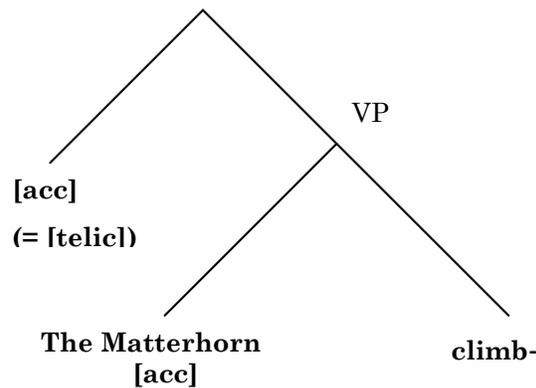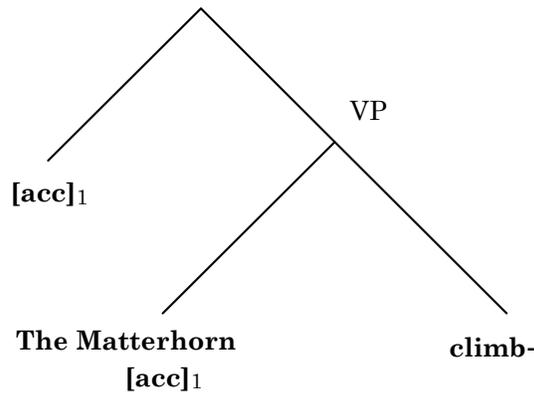
Figure 1

The DP *The Matterhorn* has the uninterpretable feature [acc], which forces it to enter an agreement relation with the verbal inflectional feature [acc] (= [telic]).   In this particular configuration, establishment of an agreement relation between the DP *the Matterhorn* and [telic] must be followed by displacement of that DP. If *the Matterhorn* was interpreted within its VP, the VP [telic] operates over would denote a mere property of events rather than the required relation between individuals and events.

What is it that could force the DP *The Matterhorn* to leave its VP? If it stayed put, the semantic interpretation procedure would crash due to a semantic type mismatch. But how should a DP sitting in the wrong place know about that? Suppose, then, that [telic] possesses a feature that allows it to attract a DP. Following Chomsky 1995, Collins 1997 and later work within Minimalism, such a feature might be called an "EPP" or "D"-feature. What are EPP or D- features? I propose to identify them with indices, with the special provision that indices are now taken to be features, too, rather than some special breed of syntactic objects. We have index features, then. An immediate consequence of this proposal is that in order to enter an agreement relation with each other, [telic] (= verbal [acc]) and the DP *The Matterhorn* have to be co-indexed. In drawing this conclusion, I am assuming that if there are such things as index features, then DPs would be the

kind of category that can have them. Consequently, agreement between *The Matterhorn* and verbal [acc]$_1$ has to include agreement with respect to the index 1. Instead of the structure in figure 1, we would now start out with the one in figure 2:

VP

[acc]$_1$

The Matterhorn
[acc]$_1$

climb-

Figure 2

If EPP or D- features are identified with indices, we expect that identification to literally derive the fact that such features can force displacement[10]. To see that it does, we have to think about the interpretation of indices. Indices are never PF-legible. Let us assume that they have to be LF-legible. Following Heim and Kratzer 1998, let us suppose furthermore that indices can be interpreted at LF as either binder indices (λ-operators) or variables, depending on their syntactic position. In the structure of figure 2, the index on [telic] can be parsed as a separate head and can then be interpreted as a binder index (λ-operator). What about the index of the DP *The Matterhorn*? If indices are features, the index of a DP has to be projected from the index of the D that heads it via the usual process of feature percolation. Indices can no longer be assigned to whole DPs by some special indexing mechanism. They must originate with lexical items – determiners in our case. But indices that are bundled with determiners are not interpretable, they are not LF-

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[10] As usual with identifications, we do not expect index features to cover <u>exactly</u> the range of functions that EPP or D-features are assumed to have in the literature. They cover a large chunk of cases, though.

legible, that is. It seems, then, that this situation forces displacement of DPs. The DP moves, leaving a part (the index and possibly other features) behind. If we assume a copy theory of movement, displacement has the effect that the lexical and feature content of a DP is distributed over two positions. In a first step, the DP is copied into the higher position. In a second step, parts of the original and/or the copy are deleted. In our case, LF-legibility for the index feature of the DP *The Matterhorn* forces that feature to be left behind in the base position, where it can be interpreted as a 'trace'. Trace theory, then, falls out from the copy theory of movement. We have:
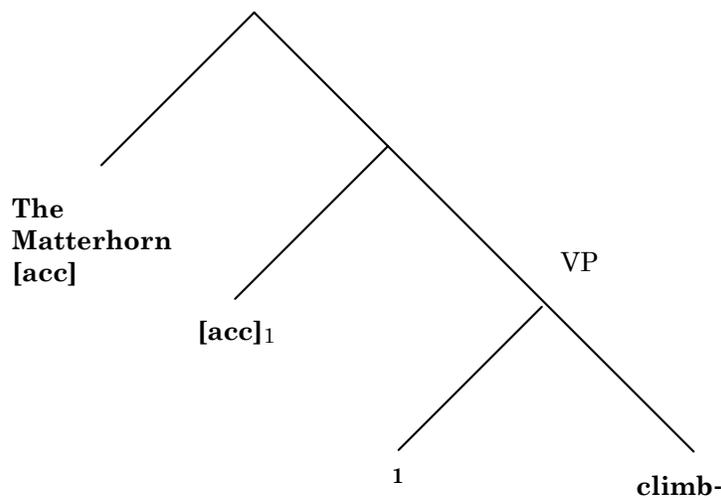
Figure 3

After deletion of the uninterpretable nominal [acc] feature via agreement, the result is the structure in figure 4, which can be interpreted with standard techniques.
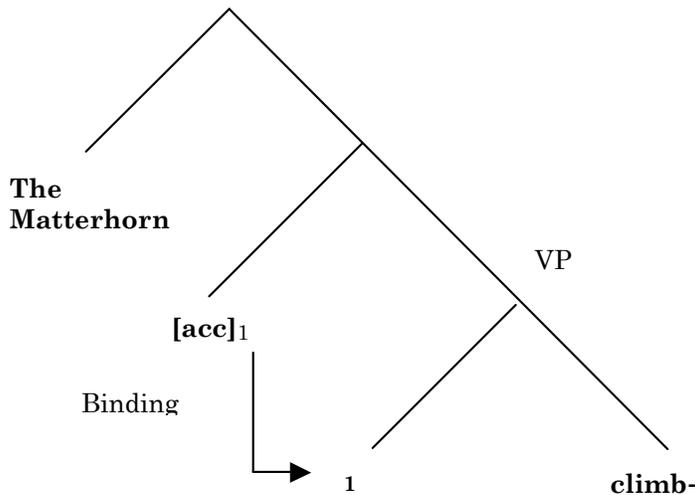
Figure 4

Being a binder index, the index of [acc] in figure 4 binds the index left in the base position of the direct object. As desired, the structure in figure 4 is a constituent that denotes a relation between individuals and events. In our example, that relation is identical to the denotation of *climb*.

We have now seen how the semantic requirement that [telic] operate over a constituent denoting a relation between individuals and events can be syntactically encoded by the presence of an index feature that comes with [telic]. This is one way of saying that [telic] has an EPP feature or a D-feature. Presence of an index feature on [telic] forces the presence of a matching index feature on any DP that wants to agree with it. For that last feature to be LF-legible, however, the DP that carries it has to split in two, leaving the index feature (and possibly other features) behind.

After going through this derivation, we might wonder whether considerations of optimal design might not favor a shorter derivation that directly starts out with a structure like the one in figure 3. In figure 3, the object position of the verb is immediately saturated with an index feature, the minimal realization of an argument, hence the minimal way of satisfying the thematic requirements of a

verb[11]. The full DP *The Matterhorn* could now be merged directly into the specifier position of verbal [acc] (=[telic]). No copy or deletion operations would be necessary. I will have to leave serious consideration of this possibility for future work.

In this section, we have seen evidence that the syntactic construction of telicity is not only desirable, but - even more importantly - it is also feasible, both syntactically and semantically. We are now ready to return to the alternations in Finnish that were the main motivation for the analysis presented in this section. I will pursue the apparently more problematic consequences of my analysis for German (and to a limited extent for English) in sections 4 and 5.

3. Reanalyzing Finnish

When taking a second look at the Finnish alternations, I suggest we separate out the NP-related cases of partititive case, which means giving up Kiparsky's unified account of partitive direct objects. There are a number of reasons for such a move. In Finnish, bare indefinite plural and mass objects always have partitive case, regardless of the verb. Kiparsky subsumed those occurrences of partitive under the semantic property of unboundedness of the relevant VP.   However, Kiparsky's unification is not without problems. Many languages, including earlier stages of Finnish, only have the NP-related partitive (Kiparsky 1998). Moreover, partitive case in Finnish is generally used for the objects of prepositions (Vainikka 1989). Finally, Finnish partitive shows up DP-internally, as in 3(b) from above:

(3)   b.   Ammu - i - n   kaksi   <u>karhu – a</u>.
            Shoot - past - 1sg two-acc   <u>bear - part</u>
            I shot two bears.
            I shot the two bears.

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[11].   I am assuming that the thematic requirements of lexical elements have to be satisfied within their projections, and that, consequently, the lexical requirements of verbs have to be satisfied within their VPs. Otherwise, verbs and [telic] could be combined before processing direct objects.

Not all occurrences of partitive can be straightforwardly subsumed under the VP-unboundedness account, then. Since partitive occurs DP-internally as in 3(b), it is plausible to assume that NP-related partitive is in fact an instance of a DP-internal partitive. There would then be an unpronounced D bearing either partitive or accusative case, you can't see which. DPs with unpronounced D's are known to be restricted to governed positions in Romance. Finnish NP-related partitive are confined to VP-internal positions according to Kiparsky 1998, a generalization that is likely to be covered by whatever explanation is given to the distribution of Romance bare nouns. The presence of an unpronounced D would also explain the otherwise odd fact that in (10), an accusative DP seems to be conjoined with a partitive one:

(10)   Ost-i-n   lehden   ja   kirjo-j-a.
       Buy-past-1sg newspaper-sg <u>acc</u> and book-pl-<u>part</u>
       'I bought the/a newspaper and books.'
       Kiparsky 1998, 275.

After discarding the NP-related partitive, the link between case and aspect emerges more clearly: Roughly, telic verbs take accusative objects. Atelic verbs take partitive objects:

(11)   <u>Telic</u>

       Ostaa ('buy'), *ottaa* ('take'), *pudottaa* ('drop'), *suorittaa* ('carry out'), *kadottaa*, *menettää*, *hukata* ('lose' (possession)), *hävitä* ('lose' (a game or fight)), *löytää* ('find'), *hyväksyä* ('accept'), *panna*, *asettaa* ('put'), *tappaa* ('kill'), *antaa*, *lahjoittaa* ('give'), *kaataa* ('fell') … (Kiparsky 1998, 281.)

(12)   <u>Atelic</u>

       Halveksia ('despise'), *ihailla* ('admire'), *kadehtia* ('envy'), *rakastaa* ('love'), *matkia* ('imitate'), *ravistaa* ('shake'), *keinuttaa* ('rock'), *koskettaa* ('touch'), *hieroa* ('massage'),….(Kiparsky 1998, 281).

Many Finnish transitive verbs can have accusative or partitive direct objects, though, with a slight change in meaning. The alternation between 3(a) and (b) from above is representative of this phenomenon.

(3) a. Ammu - i - n   kah-ta   karhu - a.   Partitive
        shoot - past - 1sg two-part bear - part.
        I shot at two bears.
        I shot at the two bears.

    b. Ammu - i - n   kaksi   karhu – a.   Accusative
        shoot – past – 1sg two-acc. bear – part
        I shot two bears.
        I shot the two bears.

Cases like (3) were the main motivation for the denotations of accomplishment stems I proposed earlier. Apart from alternations that look like typical conative alternations, we also find resultative alternations as in (13), and the use of partitive to induce an ongoing event interpretation, as in (14).[12]

(13) a. Jussi   maalas-i   talo-n   (punaise-ksi).
        Jussi-Nom paint-Pst(3Sg) house-Acc (red-Transl)
        'Jussi painted the (a) [whole] house (red).'

    b. Jussi   maalas-i   talo-a   (punaise-ksi).
        Jussi-Nom paint-Pst(3Sg) house-Part (red-Transl)
        'Jussi was painting the (a) house (red).'

(14) a. Tapo-i-n   juuri karhua.
        Kill-Pst1Sg just   bear-Part
        I was just killing the bear.

    b. Matti ost-i   (juuri) auto-a,   (kun...)
        Matti buy-Pst3Sg (just)   car-SgPart, (when....)
        Matti was (just) buying a car, (when....)'

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[12]   The examples are from Kiparsky 1998. (13) is from p. 292 and (14) from p. 289.

The alternations in (13) and (14) are expected under the current perspective. They are no longer cases of 'coercion'. In (13), a secondary predicate contributes the culmination condition. The feature [telic] can then enforce culmination as it always does. Being accomplishment verbs, the Finnish verbs for 'kill' or 'buy' do not all by themselves imply culmination. It is thus not surprising that they should be able to describe ongoing events. When the direct object of a verb is an indefinite 'bare' plural or mass NP, we can't tell whether it has accusative or partitive case, assuming that there is an unpronounced determiner. In (15), for example, that determiner would have accusative case for reading (a), and partitive case for readings (b) and (c):

(15)　Hän　kirjoitt-i　　kirje-i-tä.
　　　He/she write-past-3sg letter-pl-<u>Part</u>

    a. He wrote letters (...and left)
    b. He was writing letters (...when I came)
    c. He was writing the letters (...when I came)
    Kiparsky 1998, 272.

Vainikka 1989 characterizes accusative in Finnish as a case that "has a very narrow distribution"[13].   It only occurs with telic verbs. For Vainikka, accusative case "is literally assigned by a specific head (or feature)."[14] This limited distribution is explained if [acc] on nouns is in fact the uninterpretable version of [telic]. While a semantic interpretation for DP-internal partitive in terms of 'part of' is conceivable, it's hard to see how all occurrences of partitive could be given a common interpretation. Vainikka thus considers partitive case a structural 'default' case. Within the current framework, this would mean that Finnish [part] is uninterpretable. Like [acc], [part] would be both a verbal and a nominal inflectional feature participating in agreement relations between nouns and verbs.

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[13] .　p. 147.

[14] .　p. 156.

To prevent partitive from taking over as the only objective case, a principle along the lines of (16) would have to be posited:

(16)   Maximize Interpretability.

Suppose (16) is interpreted in such a way that it forces speakers of Finnish to pick accusative case for the direct object, unless the resulting interpretation would clash with what they intend to say. Partititive should now be used whenever a commitment to culmination is to be avoided. This should usually be the case with verbs of the kind found in (12), but, given the format illustrated by (4), all accomplishment verbs should be able to occur with partititive. On the other hand, with verbs that imply culmination, accusative should be obligatory. This is in fact so. According to Kiparsky, an achievement verb like *win* cannot take partitive direct objects:

(17)   # Matti voitt-i   kilpajuoksu-a.
            Matti win-Pst3Sg race-Part
            Matti was winning the race.
            Kiparsky 1998, 290.

If there is a principle like (16), it should not be a principle that merely holds for Finnish. In the best of all possible worlds, it would be a universal principle. Suitably interpreted, we expect it to play a role in language acquisition. Granting (16) a role in acquisition generates strong predictions about languages that, unlike Finnish, do not have two structural objective cases. In the remainder of this paper I will investigate some of those predictions for German, keeping in mind the English situation as well.

## 4.	German is not Russian

A child learning German will only encounter a single structural objective case. His first task is to identify the case he finds. Suppose the child is equipped with a universal set of possible case meanings: a few linked to particular thematic relations like beneficiary, possessor, and what have you, one related to telicity, and possibly some others. Direct objects do not have a common thematic role in German[15]. The nominal accusative feature should be uninterpretable, then. Since uninterpretable features must be checked, a matching verbal feature is required. This feature could in principle be interpretable or uninterpretable. What role might Maximize Interpretability play in guiding a child towards one or the other option? Suppose Maximize Interpretability forces a child to pick [telic], rather than uninterpretable verbal [acc], unless he finds evidence that is incompatible with such a choice, assuming general principles of syntactic organization he brings to the task. To see what relevant counterevidence might look like, let's switch to Russian.

A Russian child will find out before long that the telicity of Russian verbs is predictably linked to a set of prefixes[16]. Verbs without such prefixes are typically atelic. He will also notice that the difference in telicity does not affect the case choice for direct objects. Accusative case appears with objects of telic and atelic verbs. Moreover, as in German, nominal accusative does not seem to be linked to any particular thematic role in Russian, hence should be uninterpretable. Suppose now that general principles of grammar construction tell the child to look for a

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[15].	See Kratzer (forthcoming) for arguments against a thematic role 'theme'.

[16].	That telicity is predictably linked to a class of prefixes in Slavic does not imply that those prefixes have a compositional (that is, predictable) semantics. See Filip 2000. If telicity is linked to prefixes in Russian, verb stems with those prefixes do not merely determine a culmination condition; they imply culmination. Russian verbs with those prefixes are then expected to behave like German achievement verbs in tests like the *weiter* test discussed below.

verbal feature that can check instances of nominal [acc], preferably in a uniform way. Suppose he picks [telic]. That feature is compatible with prefixed transitive verbs in Russian, just as it is compatible with Finnish achievement verbs. It is redundant, but doesn't create trouble. When combined with prefixless transitive verbs, however, [telic] would immediately render them telic, contrary to what the child observes. He should therefore pick uninterpretable verbal [acc] to check the case feature of direct objects. In the remainder of this and the following section, I will argue that, in spite of superficial similarities between Russian and German verbs, the German child finds himself in a very different situation. As a result he will be pushed to choose the Finnish option for checking the case of direct objects.

At first glance, German verbs do not look too different from their Russian counterparts. As in Russian, simplex verbs often have atelic uses and usually come with a large number of different prefixes. The prefixes often render the verb transitive and telic. Take *schreiben* ('write').

(18)   a.   Das Blatt <u>be</u>schreiben
                 The   page <u>be</u>-write
                 'Cover the page with writing'

       b.   Die Tinte   <u>ver</u>schreiben
                 The ink   <u>ver</u>-write
                 'Use up the ink by writing'

       c.   Die Eltern   <u>an</u>schreiben
                 The parents <u>an</u>-write
                 'Write to the parents'

       d.   Den Aufsatz   <u>ab</u>schreiben
                 The article   <u>ab</u>-write
                 'Copy the article'

       e.   Die Abkürzungen   <u>aus</u>schreiben
                 The   abbreviations <u>out</u>-write
                  'Write out the abbreviations'

The superficial impression that German and Russian are alike in the way they use prefixation to mark telicity is elusive, however. The very same prefixes we see in (18) also appear with atelic verbs:

(19)   *Beobachten* (observe), *beeinflussen* (influence), *behindern* (disable),
        vernachlässigen (neglect), *verschonen* (spare), *verneinen* (deny),
        anbeten (adore), *anschreien* (yell at), *anlocken* (attract), *abschrecken* (deter),
        sich abquälen (to struggle (with something)), *abschweifen* (digress),
        aushalten (endure), *sich ausdehnen* (expand), *aushängen* (be posted), …..

The verbs in (19) are no lonely exceptions. Even though there are some German prefixes that are linked to telicity, there is no strong correlation between telicity and verb prefixation once we look at the class of German verbs as a whole. In contrast to his Russian cousin, then, a German child does not find systematic overt carriers of telicity in the data he hears. So far so good, but does this difference help us with our search for a verbal head that could check nominal [acc]? Not yet. Suppose the German child picks [telic]. We would then seem to predict that all transitive verbs should end up telic in German, and this prediction looks as wrong for German as it was for Russian.

There is another difference between Russian and German, however, that we have to pay attention to when thinking about the kind of data that a German child is likely to encounter. As illustrated by 20(c), Russian has a compositional suffix (*yv*)*aj,* which can derive 'in progress' readings for telic verbs[17].

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[17] .   Smith 1991, Filip 2000. When talking about Slavic, terminology is particularly difficult. For consistency with the terminology of this paper, I am using the 'telic'/'atelic' pair for the distinction that is marked in Russian by the presence versus absence of the relevant class of prefixes. I'll label the compositional higher aspectual operator (*yv*)*aj* an 'imperfective operator'. Implicit in this terminology is the claim that the presence versus absence of the relevant prefixes affects the culmination implication, whereas the presence or absence of the higher imperfective operator affects

(20)   a.   pis-a-t'   No culmination implication
                   to write

       b.   pere-pis-a-t'   Culmination implication
                   to write over, copy

       c.   pere-pis-<u>yva</u>-t'   'In progress' interpretation
                   to write over, copy

          Smith 1991, 299.

In 20(c), the imperfective operator carried by the suffix (*yv*)*aj* could 'neutralize' the culmination implication of a predicate with a telic prefix by taking scope over it. When we claim that Bartelby is copying a legal brief, for example, we say that there will be a complete copy at some point - not necessarily in the actual world, but at least in a range of reasonably close possible worlds. Filip 2000 argues that the Russian imperfective suffix (*yv*)*aj* is a piece of inflectional morphology, whereas the prefixes linked to telicity are derivational. This automatically places the imperfective operator in a higher position. Higher imperfective operators, then, can take telic predicates and map them into predicates that closely mimic the behavior of atelic ones.

Imagine now a language with the following properties: In contrast to Russian, it doesn't have any systematic overt expression of telicity. Like Russian, it has a higher imperfective operator, but unlike its Russian counterpart, that operator is non-overt. A child who is exposed to such a language should be able to pick [telic], hence interpretable verbal [acc] to check the nominal [acc] feature of direct objects

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the relation between event time and reference time, hence viewpoint aspect in the sense of Smith 1991. Unfortunately, this assessment of the Russian facts doesn't seem to be entirely compatible with the discussion of Russian in Smith 1991. I believe that the apparent conflict might be resolved, however, once we look closer at the connection between the presence or absence of a culmination implication and the way event times are related to reference times. I will not be able to pursue this issue here. I believe that this difficulty does not affect the argument I want to make.

without encountering obviously conflicting evidence. The fact that not all verbs behave like telics is no longer a problem. Since the child has an unpronounced higher imperfective operator in his tool kit, he merely has to posit such an operator to instantly undo the effect of a lower [telic], and thus achieve a close match with the facts he observes. I want to argue that German is a language of precisely this kind.

We have already seen that, as a class, German verbs are not consistently marked for telicity. Our next task is to present evidence that German does in fact have an unpronounced higher imperfective operator. It is not too hard to find such evidence. First, look at 21(a) to (c):

21 (a)   Er soll   morgen   einen Berg   besteigen.
          He should tomorrow a   mountain climb
          He is supposed to climb a mountain tomorrow.

    (b)   Sie soll   heute Handschuhe stricken.
           She should today mittens   knit
           She is supposed to knit mittens today.

    (c)   Du   sollst   heute Abend   einen Hummer verspeisen.
           You should today evening a   lobster   consume.
           You are supposed to consume a lobster tonight.

The verbs in (21) are typical accomplishment verbs. Copying a technique from Streitberg 1891, I embedded those verbs under a modal. This makes it possible to avoid the possible impact of higher inflectional operators that might obscure the properties of the verbs and verbal [acc]. Each verb is also accompanied by a temporal adverbial that gives us a reference time. The embedded infinitival clauses in (21) all imply culmination of the activities described by the verb during the time picked out by the temporal adverbial. The man in 21(a) doesn't do what he is supposed to do if he doesn't get anywhere near the top of a mountain tomorrow. The woman in 21(b) doesn't do her duty if, by the end of the day, there aren't any

mittens she has knit, and if you want to obey 21(c), you can't save half of your lobster for lunch tomorrow. The verbs in (21), then, cannot get an ongoing event interpretation with respect to the respective reference times.

The verbs in (21) are part of bare infinitival complements, hence do not project a full hierarchy of inflectional heads. As soon as we examine finite clauses, we can detect the possible presence of a non-overt imperfective operator. Here is an illustration:

(22) Bi-lingual cell phone conversation

   You: What are you doing (right now)?

   I: Ich besteige (gerade)   den Mount   Monadnock.
          I   climb   (right now) the Mount   Monadnock.
          I am climbing Mount Monadnock (right now).

In (22), the reference time for my utterance is the time of your question. What I am saying in my reply to you is that I am climbing Mount Monadnock, that is, an event of climbing Mount Monadnock by me is in progress at the reference time. The event described by the verb in (22), then, is allowed to be in progress at the reference time.

To have a concrete proposal, a possible denotation for the German non-overt imperfective aspect operator would look as follows[18]:

(23) $\lambda P \lambda t \exists e[P(e) \ \& \ t \subset \tau(e)]$ Imperfective (Viewpoint) Aspect

Here is the effect of (23) on my reply in (22). The operator in (23) creates a property that is true of any time t just in case t is properly contained in the time of a

successful climb of Mount Monadnock by me. This property is then applied to the reference time for (22), which is thereby required to be a proper part of my climb. As a result, my climb is represented as an ongoing event.

According to (23), the imperfective operator shouldn't successfully combine with achievement verbs. Achievement verbs describe instantaneous events. There is no way for those events to be in progress. By the time you talk about them, they are already a matter of the past. This seems to explain the anomaly of (24):

(24)   Sie können jetzt nicht mit Goethe sprechen. # Er stirbt.
       You can   now not   with Goethe talk.   He dies.
       'You can't talk to Goethe right now. He is dying.'

(23) correctly predicts that speakers of German are still committed to culmination when using non-overt imperfective operators with accomplishment verbs. The crucial point is that while culmination <u>at some time</u> is implied in (22), culmination doesn't have to occur during the reference time. To see this more clearly, we have to examine past tense cases. You will not call me a liar if, in spite of good intentions, I did not manage to reach the summit of Mount Monadnock after having said what (22) reports. Somehow, such cases never go to trial. Consider the following example, then:

(25)   a.   Wieland saß damals (gerade)   im   Gasthaus und verspeiste
            Wieland sat then   (at the moment) in-the pub   and consumed

            einen Hummer.
            a   lobster.
            'Wieland was sitting in the pub then and was consuming a lobster.'

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[18].   The denotation (23) is in the spirit of Bennett and Partee 1978. The variable 't' ranges over intervals of times, and τ is a trace function assigning to events in its domain their running time.

b.   # Er hätte bestimmt mehr als   nur ein paar Bissen gegessen, wenn ihm
        He had   certainly more than only a few bites   eaten   if   him

        ein übereifriger   Kellner nicht den Teller weggenommen hätte.
        a   over - zealous waiter not   the plate away taken   had.

        'He would certainly have eaten more than a few bites if an over-
        zealous waiter hadn't taken his plate away.'

The (a) sentence zooms in on a particular contextually salient past situation: Wieland is sitting in a pub, consuming a lobster. Wieland's action is still in progress at the time we are looking at, which can be emphasized by the use of *gerade*, which forces the presence of the imperfective operator. The (b) sentence fills the reader in on what happened in the end. The lobster wasn't consumed. As a continuation of the (a) sentence, the (b) sentence sounds slightly odd and seems to be not quite in line with what was said before. Knowing what happened, the writer should have used a phrase like 'wanted to consume a lobster'. The implicit imperfective operator that seems to be available in German, then, is different from the English progressive operator, which is a modal operator, allowing the events described to develop and culminate in merely possible worlds (Dowty 1979). It is conceivable that the overtness of the English imperfective operator allows it to include a modal component.

I conclude that there is a non-overt imperfective operator in German. We have learned moreover that that operator must be located above the verbal [acc] head, since, as shown by the embedded infinitives in (21), accomplishment verbs can project verbal [acc] without allowing an ongoing event interpretation. Once a full hierarchy of inflectional heads is projected, an accomplishment verb can always get an ongoing event interpretation in German. German, then, is a language that has an unpronounced imperfective operator that is located above verbal [acc]. Given that it is also a language where, as a class, verbs are not consistently marked for telicity, a German child is expected to pick [telic] as the verbal version of [acc].

Maximize Interpretability would force that choice since it would not conflict with the evidence the child encounters. Non-overt higher imperfect operators operating over [telic] could instantly create predicates that closely mimic the properties of initially atelic VPs.   The following section will argue that the picture I painted in this section is not just a possibility. There is direct evidence that verbal [acc] is in fact interpretable in German, hence identical to [telic]. As in Finnish, then, the telicity of German accomplishment verbs is syntactically constructed with the help of unpronounced [telic]. The connection between telicity and accusative is as tight in German as it is in Finnish.

5.   German as Finnish without partitive

A major prediction of the claim that the telicity of German accomplishment verbs is syntactically constructed with the help of unpronounced [telic] is that the culmination requirement enforced by [telic] should be absent if we manage to catch an accomplishment stem below the point where [telic] can appear. Suppose [telic] is an inflectional head right above VP. A good way of testing the hypothesis that German accomplishment stems are not telic from the start would be to examine compositional verbal compounds that involve V's that haven't been able to project beyond VP. Compounds with the prefix *weiter* seem to provide the right test cases. They attach to stems that do not yet have whatever it takes to license an accusative direct object. This is shown by the existence of nominalizations like *das langsame Weiterbesteigen des Berges* ('the slow on-climbing of the mountain'). In these nominalizations, the direct object of the verb *besteigen* ('climb') can only have genitive case, indicating that whatever verbal inflectional head licenses (and forces) accusative case for direct objects is not yet available when *weiter* enters the derivation. Consider now the following examples:

(26)   a.   Wir konnten   den Berg   <u>weiter</u>besteigen.
                We   could   the   mountain on-climb.
                'We could continue to climb up the mountain.'

b.   Wir konnten   die Strasse   <u>weiter</u>überqueren.
          We   could   the street   on-cross.
          'We could continue to cross over the street.'

c.   Wir konnten das Geschenk <u>weiter</u>auspacken.
          We   could   the gift   on-unwrap.
          'We could continue to unwrap the gift.'

d.   Hans konnte   die Suppe <u>weiter</u>essen.
          Hans could   the soup   on-eat.
          'Hans could continue to eat the soup.'

The effect of the prefix *weiter-* is to state that the activity described by the verb it operates over continued. The embedded verbs in (a) to (d) are all typical accomplishment verbs. They all test unambiguously positive in the traditional telicity tests[19]. If the culmination condition was already imposed at the point where *weiter* enters the derivation, it's hard to see why, say, *den Berg weiterbesteigen* means 'to continue to climb up the mountain (with the goal to reach the top of the mountain)'. The culmination requirement, then, is not there in those cases. Its absence can't be explained by the presence of infinitival morphology, since infinitival morphology all by itself doesn't affect the culmination requirement as shown by 21(a) to (c) from above[20].   If accomplishment stems only imply culmination after [telic] has been attached, the facts in (26) are as they should be. In compounds with *weiter*, typical accomplishment verbs behave exactly like activity or process verbs:

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[19] .   Since the direct objects are definite, the traditional telicity tests are reliable for picking out telicity.

[20] .   Once a culmination requirement has been imposed, modalization seems to be needed to divert its impact on claims about the actual world. The *to* in English infinitives has a modal component, which seems to make it possible for *he continued <u>to</u> climb Mount Monadnock* to produce the same kinds of meanings as prefixation of *weiter* to bare verb stems. English progressive *-ing* seems to exploit the same technique. See the discussion below.

(27)   a.   Du kannst den Parkplatz weiterbewachen.
               You can   the parking area on-guard.
               'You can continue to guard the parking area.'

       b.   Du kannst mich weiteranschreien.
               You can   me   on-at-yell
               'You can continue to yell at me.'

On the other hand, achievement verbs can't combine with *weiter*, as illustrated in

(28) [21]. Achievement verbs imply culmination from the very start, hence should

yield a deviant interpretation when combined with *weiter*:

(28)   a.   * Wir müssen die Suppe weiteraufessen.
               We   must   the soup   on-up-eat.
               'We must continue to eat up the soup'.

       b.   * Wir müssen   das Buch weiterauslesen.
               We   must   the book on-finish-read
               'We must continue to finish reading the book.'

We have now seen some evidence confirming that German accomplishment verbs do

not start out as telic. They are born as atelics. In contrast to achievement verbs,

their telicity is syntactically constructed. Within the course of a syntactic

derivation, then, the aspectual properties of a verb can change under the impact of

inflectional heads.

An accomplishment stem that combines with *weiter* continues to be atelic. If it has

a direct object, that object carries accusative case like the direct object of any

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[21].   There is also an adverb *weiterhin*, which is acceptable with achievement verbs, but will then

yield an iterative interpretation, as in *John will continue to wake up at 5 in the morning.* The events

that are being iterated in this case are the culminated ones. According to the present account,

weiterhin would be expected to occupy a higher position in phrase structure, so that it can affect

verbs after [telic] has been attached. The usual positional tests show that *weiterhin* does indeed

occupy a higher position than *weiter*.

transitive verb – telic or atelic. Our account so far says that if verbs have accusative objects, there is [telic], and consequently a culmination requirement is imposed. Since the stems of atelic verbs do not determine a culmination condition, it might be possible for the context to provide one. Process and activity verbs should then be able to behave as telics in certain contexts. There is a very large class of transitive verbs in German and English that show telic as well as atelic behavior according to the standard tests[22].

(29)   a.   We surveyed the continent in/for two years.

      b.   We cooked the egg in/for five minutes.

      c.   We milked the cow in/for ten minutes.

      d.   We planned the trip in/ for two weeks.

      e.   She cleaned the house in/for two hours.

The list of verbs that alternate in this way is very long and includes the following, for example:

(30)   Read, examine, analyze, barbecue, roast, iron, bathe, massage, wash, comb, brush, fry, polish, explain, confuse, pollute, control, cover, protect, insulate, test, decorate, describe, drain, mop ….

What does it mean to *plan* a trip in two weeks, for example? The verb *plan* certainly doesn't tell you that. If tickets have to be bought and hotel reservations are needed for the planning activity to culminate, it's something that is contextually understood. Under the current perspective, the verbs in (29) and (30) are process/activity verbs: they do not have lexically determined culmination conditions.

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[22] .   See Levin 2000 for more relevant examples and discussion. The examples in (29) do not have bare plural objects, hence the objections to the standard tests for telicity I raised earlier do not apply here.

If they can behave like accomplishment verbs, it's because they easily activate contextually inferred culmination conditions that are then imposed by [telic]. No process of 'coercion' has to be invoked. The fact that those verbs can behave as telics is thus explained. What isn't explained yet, however, is why the same verbs can combine with durational adverbials. If [telic] is required to license accusative direct objects, wouldn't the presence of [telic] be incompatible with a durational adverbial? Before taking up that important issue, I'd like to point out that the hybrid behavior of the verbs in (29) and (30) is typologically common. McClure 1995 reports, for example, that Japanese does not have any accomplishment verbs at all.[23] According to him, every Japanese activity verb can have a telic interpretation under the right circumstances. In Japanese, then, culmination conditions might be more generally provided by context.

What happens when transitive process or activity verbs appear with a durational adverbial as in (31)?

(31)   Ich musste einen   Tag (lang) deinen   Koffer   schleppen.
        I   had to one-acc day (long) your-acc suitcase schlep
        I had to schlep a suitcase for one day.

Process and activity verbs can generally be modified by measure and degree phrases such as *a lot*, *a bit*, *more than expected*, *somewhat*, (*for*) *two hours*, (*for*) *two miles*[24].

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[23] .   Japanese does have V-V compounds with accomplishment denotations, however, see Nishiyama 1998.

[24] .   An important consequence of Kiparsky's proposal to link atelicity (his unboundedness) to gradability and the ability to be modified by degree and measure phrases is that by that criterion, the verb *own*, for example, doesn't come out as atelic. By paying off part of your mortgage, say, you can't own your house 'somewhat more'. As expected on Kiparsky's proposal, the verb *omistaa* ('own') takes accusative direct objects in Finnish. In a number of languages, certain types of statives, including verbs meaning 'own' or 'know' show up as pretero-presents. A pretero-present is a verb that has past tense morphology, but present meaning. An example is Ancient Greek *oidenai* ('to

The important observation is that if a verb is modified by a measure or degree phrase, it is that very phrase that provides the culmination condition. (31) as a whole, then, is a telic construction where the delimiter is a measure phrase, rather than the direct object. Wechsler and Lee 1996 speak of 'situation delimiters' in those cases[25]. That I schlepped your suitcase for one day, for example, means that that event culminated with respect to a one-day schlepping time. That I schlepped your suitcase for 10 miles means that my schlepping action culminated with respect to a schlepping distance of 10 miles. As emphasized by Wechsler and Lee, it cannot be an accident, that many languages use accusative case for measure and degree phrases, but not for other kinds of adjuncts.

When degree or measure phrases supply the delimiter for a verbal predicate in German, the whole construction becomes a multiple object construction. In contrast to English[26], the syntax of measure phrases and other circumstantial adverbials is fairly straightforward in German. Scope relations are transparently reflected in the surface line-up. This is shown by the following example:

(32) Ich musste einen Monat lang jeden Tag eine Stunde Koffer   schleppen.
      I   had to one   month long every day one   hour   suitcases schlep.
      I had to schlep suitcases for one hour every day for one month.

In (32), the order of circumstantial adverbials is fixed with respect to each other, and with respect to this kind of direct object, which is a weak indefinite. Any other order is unacceptable. The order we find in German is the one we expect from the

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know'). The inflection of this verb is from the perfect aspect paradigm. The meaning of the verb, however, is simply 'to know'. It seems, then, that pretero-presents might have incorporated perfect aspect morphology, and might not necessarily start out with stative roots at all.

[25].   Thanks to Min-Joo Kim for alerting me to Wechsler and Lee's paper.

[26].   See Cinque 1999, section 1.5 for discussion of this point. See also the remarks in Chomsky 1995, p. 333.

point of view of LF-legibility. The English order needs to be explained - a project I can't pursue here.

We can now tentatively posit the following structure for the lower portion of sentence (31):

Einen Tag
[durative]
[acc]

[durative]
[acc]

deinen
Koffer
[acc]
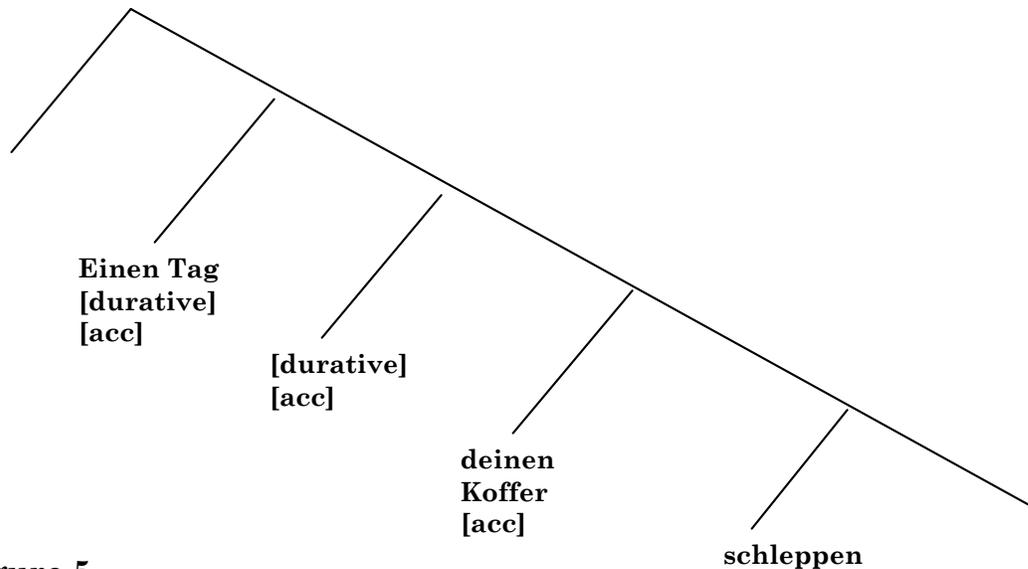
schleppen

Figure 5

The structure in figure 5 is a two-headed shell structure. The direct object *deinen Koffer* ('your suitcase') is in the specifier position of the verb *schleppen*. Following Morzycki (2001, forthcoming), the durational measure phrase *einen Tag* ('one day') is placed in the specifier position of a matching functional head, which I take to be represented by the interpretable feature [durative][27]. The durational phrase itself is assumed to carry the uninterpretable version of the same feature, which can be pronounced as *lang* in German (*for* in English), but can also remain silent under certain conditions, which do not have to concern us here. Agreement with the measure phrase in its specifier position makes it possible for the durative head to

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[27] .   Morzycki calls the feature '[homogeneous]' and gives it a slightly different interpretation, but the particular division of labor between functional head and measure phrase I am pursuing here was first proposed and defended in his work from a semantic point of view.

carry an instance of uninterpretable [acc]. The direct object *deinen Koffer* can now in turn enter an agreement relationship with that head. I am assuming that DPs that are not measure phrases are not the kind of categories that can have the feature [durative], hence agreement between the durative head and the direct object *deinen Koffer* can be established on the basis of [acc] alone. The checking relations are now as follows: Uninterpretable [acc] on the direct object *deinen Koffer* can be checked via agreement with uninterpretable [acc] on the durative head, and that feature in turn can be checked via agreement with the interpretable [acc] feature of the measure phrase. No displacement of the direct object is necessary. It can be interpreted *in situ*[28]. After deletion of all uninterpretable features, the meaning of the relevant part of sentence (31) can be derived as follows:

(32) *deinen Koffer schleppen* λe schlep(your suitcase)(e)

 [durative] $\lambda P \lambda e \ [e = \sigma e'[P(e') \ \& \ e' < e]]$

 [durative](*einen Koffer schleppen*) $\lambda e \ [e = \sigma e'[$schlep(your suitcase)(e') $\&$

   $e' < e]]$

As proposed by Morzycki, the feature [durative] makes sure that the VP it operates over does not express a quantized property of events. In our example, [durative] creates a property of events that is true of any event that is made up of proper subevents that are all events of schlepping your suitcase. That condition excludes VPs that express quantized properties of events. The fact that degree and measure phrases are accusative marked in many languages suggests that the accusative we find on those phrases might be a candidate for nominal interpretable [acc]. German inherently delimiting DPs would then carry semantic case. That they do is shown

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[28] . This consequence should in principle be detectable. Under the right conditions, the direct objects of process and activity verbs should appear lower in the tree than the direct objects of accomplishment and achievement verbs. Direct confirmation of this prediction is difficult in German, Scottish Gaelic might be a more suitable language to look at. See Ramchand 1997.

by the fact that they remain accusative marked in passive and unaccusative constructions[29]. The denotation of the durational phrase in (31) can be computed as follows:

(33) *1 day* $\lambda e\ [f_{day}(e) = 1]$

[acc]$_N$ $\lambda P \lambda e\ culminate(P)(e)$

[acc]$_N$ (*1 day*) $\lambda e\ culminate(\lambda e\ [f_{day}(e) = 1])(e)$

1 day denotes a property that is true of any event just in case it lasts for 1 day[30]. The nominal interpretable feature [acc] imposes culmination with respect to a property of events. In our example, it produces a property that is true of any event that culminates with respect to the property of lasting 1 day. That condition is satisfied by an event just in case it lasts for one day. Putting all the pieces together, the structure in figure 5 describes events of schlepping your suitcase that last one day.

Measure and degree phrases have been investigated extensively in connection with adjectives. An adjective like *tall*, for example, is typically assumed to come with an overt or non-overt degree or measure phrase like *5 foot*[31]. If non-overt degree phrases can accompany gradable adjectives, it should be possible for them to accompany gradable verbs as well[32]:

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[29]. As discussed by Wechsler and Lee 1996, the situation in Korean is more complicated. There are some durative adverbials that have inherent accusative. But generally, situation delimiting adverbials show up with nominative case in passive constructions, suggesting that a verbal inflectional head is involved.

[30]. The function f_{day} is a measure function that assigns to any event in its domain its running time in days.

[31]. See Kennedy 1999 for a recent analysis.

[32]. See Kennedy and McNally 1999, and Hay, Kennedy, and Levin 1999.

(34) a. We enjoyed the play (a lot).

   b. We admired the teacher (to a certain degree).

   c. We feared the hurricane (more than the drought).

On the current account, non-overt degree phrases would in fact be necessary if verbs like those in 34(a) to (c) are not delimited overtly, since in those cases, the referents of the verbs' direct objects don't participate in delimiting the event or state described. Given that [telic] presupposes such participation, [telic] shouldn't be acceptable with the verbs in 34(a) to (c). A non-overt degree phrase can contribute [acc] in those cases.

An interesting consequence of the account pursued here is that it does not prevent degree and measure phrases from co-occurring with telic VPs, as long as those VPs do not denote quantized properties of events. We therefore expect VPs that are built from a telic verb and a bare plural accusative object to be compatible with measure phrases, while at the same time implying culmination. Example 5(a) from above showed already that this expectation is borne out.

(5) a. Sie hat tagelang Fausthandschuhe gestrickt.
       She has for days mittens - Acc   knit.
       She knit mittens for days.

Even though it implies culmination, the constituent '[telic] *knit mittens*' denotes a non-quantized property of events, hence can in turn combine with [durative][33].

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[33] .   The approach to telicity advocated here also seems to help with the Slavic quantization puzzles presented in Filip 2000. Since telicity itself is not necessary linked to quantization on the present proposal, the durative head is expected to be able to operate over telic VPs that do not denote quantized properties of events.

We can now begin to see how a child learning German might be able to push Maximize Interpretability to its limits. Atelic transitive verbs might use [telic] to check the case of their direct objects and trigger contextually provided culmination conditions. Or else they might combine with an overt or non-overt measure or degree phrase carrying interpretable [acc], and then exploit the derivative [acc] feature of the durative head that comes with such phrases. In this way, the presence of a measure or degree phrase carrying lexical accusative can license uninterpretable [acc] on another DP. We have a phenomenon of 'telic concord', then, that looks very much like the more familiar phenomenon of negative concord.

Let me summarize. Since accusative is the only objective case in German, all events that are describable by the lower portions of a transitive verb's extended projection have to be delimited according to the analysis I am proposing. That excludes talk about ongoing events at that stage of the syntactic derivation. When you tell me that there is a completed climb of Mount Monadnock right now, for example, you can hardly describe an ongoing event. If the event is complete now, it is over by the time you start talking. An imperfective operator has to be inserted at that point to represent that event as still in progress during the reference time. If that operator happened to be overt, we would actually be able to see that initially atelic VPs in German use [telic] or a possibly non-overt delimiter to license the case of their direct objects. Interestingly, English is a language that has what German seems to lack: an overt higher imperfective operator. As a result, we can directly observe the effects of lower non-overt delimiting devices. 35(b), for example, cannot be used to describe an ongoing event even though *schlep* is an initially atelic verb:

(35) a. At this very moment, he is schlepping your suitcase.
    b. # At this very moment, he schleps your suitcase.

When activities like his schlepping your suitcase are true for some interval of time, they are also true for all of its subintervals, including mere instants. Why is it,

then, that we have to use a progressive when talking about ongoing activities in English? If 35(b) requires [telic] or a non-overt measure or degree phrase, we have a possible explanation for why the progressive is obligatory in (35)[34]. Since a culmination requirement is necessarily imposed, it is impossible to describe ongoing events unless a higher imperfective operator comes to the rescue.

Returning to accomplishment verbs, the analysis I proposed makes a rather strong prediction for unaccusatives in the relevant languages. There shouldn't be any telic ones that are built from accomplishment stems. As for German, the actual prediction is that you shouldn't find any unaccusatives that are compatible with *weiter*, but come out as unambiguously telic in the standard tests. The prediction might be borne out. McClure 1995 already argued that unaccusatives in Italian are either statives or achievement verbs[35]. German unaccusatives also include verbs describing activities like *marschieren* ('march'), *fliegen* ('fly'), or *gleiten* ('glide')[36]. In addition, there is a large number of unaccusatives that are 'degree achievement verbs' in the terminology of Dowty 1979. Examples are *wachsen* ('grow'), or *fallen* ('fall'). Degree achievement verbs combine with degree and measure phrases, of

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[34] .   The progressive must be used to describe ongoing events even when there is no accusative direct object. It seems, then, that an implicit delimiter has to be present in those cases, too.

[35] .   See also Van Valin 1990.

[36] .   Standard German differs from both Italian and Dutch in using the auxiliary *sein* even in constructions like *Er ist stundenlang im Kreis herummarschiert* ('He marched around in circles for hours'). The existence of the past participle construction *die stundenlang im Kreis herummarschierten Soldaten* ('the for hours in circles marched around soldiers', meaning 'the soldiers who marched around in circles for hours') shows that this is not merely an idiosyncrasy of auxiliary selection. Other examples: *Er ist im Wald spazierengegangen* ('he walked in the wood'), *sie ist auf und ab gesprungen* ('she jumped up and down'), *er ist hin und her geflogen* ('he flew back and forth'), *er ist stundenlang über das Eis geglitten* ('he glided over the ice for hours') etc. That unaccusativity is not universally linked to telicity is documented in Mithun 1991.

course (*grow 2 inches*, *fall 100 yards*)[37], and are thus process/activity verbs on the present account. They are not classified as unambiguously telic by the standard tests. If they seem to imply culmination, that impression is due to the implicit presence of a degree or measure phrase. The remaining German unaccusatives are statives (e.g. *bleiben* ('stay')) or (true) achievement verbs. That last group of verbs can be easily identified since they do not combine with *weiter*, as shown by 36(a) to (d):

(36)   a. * Sie ist weiterverreist.
                   She is   on-went-on a trip.
                   'She continued to go on a trip'

        b. * Hans ist   weiteraufgewacht.
                   Hans is   on- woken- up.
                   'Hans continued to wake up.'

        c. * Maria ist   weiterertrunken.
                   Maria is   on- drowned.
                   'Maria continued to drown.'

        d. * Das Schiff   ist weiteruntergegangen.
                   The ship   is   on- under-went.
                   'The ship continued to go under.'

36(d) contrasts with the grammatical (37):

(37)   Das Schiff ist weitergesunken.
           The ship is on-sunk
           'The ship continued to sink.'

The contrast between 36(d) and (37) is matched by the contrast between 38(a) and (b), as expected:

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[37].   Hay, Kennedy and Levin 1999.

(38) a.   Das Schiff ist 100 Meter gesunken.
            The ship   is   100 meters sunk

      b.   * Das Schiff ist 100 Meter untergegangen.
            The ship   is 100 meters under+went

Unlike *untergehen,* which is an achievement verb, *sinken* is a degree achievement
verb, with culmination being defined by a degree phrase.

Apparent counterexamples to the claim that there are no unaccusative
accomplishment verbs in German are verb-particle constructions of the following
kind:

(39) a.   Der Hase ist <u>weg</u>gehoppelt.
            The rabbit is away-hopped.
            The rabbit hopped away.

      b.   Der Papagei ist <u>raus</u>geflogen.
            The parrot   is out-flown.
            The parrot flew out.

The verbs in (39) have the semantic make-up of what is traditionally called an
"accomplishment verb". They characterize an activity (hopping, flying) and a result
brought about by that activity (being outside, being away). Yet they do not show
the characteristic behavior of accomplishment verbs in the technical sense
introduced earlier. They are unacceptable with continuative *weiter*[38]:
* *weiterweghoppeln,* *weiterrausfliegen*. There is a crucial difference between the
kind of verbs in (39) and the accomplishment verbs I have been discussing. The
verbs in (39) are built from a particle and a verb in a completely compositional way.
Both particles occur in isolation with the same meaning they have in (40):

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[38] .   German *weiter* also means 'further'. *Weiter weg hoppeln* means 'hop further away'.

(40) a.   Weg!
               Away!

      b.   Raus!
              Out!

The verbs we see in 39(a) and (b), then, are not minimal units fed to the semantic interpretation component. Their smallest meaningful constituents are the particles *weg* and *raus*, and the verbs *hoppeln* and *fliegen*. None of those items is an accomplishment stem. Kratzer (forthcoming) argues that compositional particles like *away* or *out* are headed by a non-overt causative affix, hence are eventive predicates. Rather than merely specifying a culmination condition, however, they already imply culmination. They are comparable to achievement stems, then. Consequently, no feature [telic] is needed to produce the telicity of compositional particle verbs.

Complex predicates characterizing both an activity and a target state can be built in a number of ways. Using an inflectional feature combining with stems that determine a culmination condition is just one possibility, even within a single language. Secondary predicates, compounding and serialization are other, better known options. 39(a) and (b) illustrate one of those other options, then. German seems to have come to exploit the inflectional option under the impact of non-compositionality. German transitivizing prefixes are no longer reliably linked to telicity.

While many questions remain[39], we have encountered some rather subtle facts suggesting that the visible connection between telicity and accusative case we find

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[39] .   I haven't addressed what happens when accomplishment verbs are passivized. While there is no overt DP that carries accusative case in English passives, accusative case might nevertheless be present, as argued in Baker, Johnson, and Roberts 1989. This would still not explain why it isn't the delimiting argument that carries accusative case in English passives. A detailed morphological

in Finnish might also exist in German and English. We speculated about how a German child might build a grammar that has a single objective case, and in the course of that investigation, we were able to connect a number of apparently unrelated phenomena in the area of Aktionsarten, case, and viewpoint aspect. The proposal I made about the connection between telicity and accusative case in German and English generates strong predictions that I hope will inspire typological and acquisition studies even if the actual expectations should eventually be disconfirmed. Minimally, I designed a hypothetical scenario showing how superficially very different representations of case and aspect can be constructed by the minds of children working with the same grammar extraction kits.

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analysis of past participles is necessary to answer this question, which I have to leave open here. See Kratzer (forthcoming). Another important question I will have to leave for further research is what happens under negation. The objects of negated verbs have obligatory partitive case in Finnish.

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