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## Layers of (un)boundedness: The aspectual–quantificational interplay of quantifiers and partitive case in Finnish object arguments

<https://doi.org/10.1515/ling-2020-0084>

**Abstract:** I present an account of the interplay between quantifiers and the partitive–accusative case alternation in Finnish object marking, with special reference to the aspectual and quantificational semantics of the clause. The case alternation expresses two oppositions (in affirmative clauses): (a) bounded (accusative) vs. unbounded (partitive) quantity, (b) culminating (accusative) vs. non-culminating (partitive) aspect. The quantifiers analyzed are of two main types: (i) mass quantifiers (e. g., *paljon* ‘a lot of’, *vähän* ‘(a) little’), which quantify a mass expressed by a mass noun or a plural form, (ii) number quantifiers (e. g., *moni* ‘many’, *usea* ‘a number of’), which quantify a multiplicity of discrete entities expressed by a count noun in the singular or plural. Finnish mass quantifiers only quantify nominals in the partitive, while number quantifiers agree with the quantified nominal in number and case and are used throughout the case paradigm. With a mass quantifier, the partitive form of the quantified nominal expresses unbounded quantity, which the quantifier then renders bounded (quantized). This is why object phrases with mass quantifiers behave like accusative objects: they express a bounded quantity together with culminating aspect. Number quantifiers quantify both accusative and partitive objects, in the singular and plural. Such objects are able to express aspect and quantity at two levels: (i) that of the individual component events which concern one entity each; (ii) that of the higher-order event which concerns the whole quantity expressed. I argue that the case marking of the object relates primarily to level (i), while the meaning of the number quantifier relates to level (ii). This is why a number quantifier typically renders the quantity bounded and the aspect culminating at level (ii), even when the partitive case expresses unboundedness or lack of culmination at level (i).

**Keywords:** partitive case, Finnish, object, aspect, quantifier

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# 1 Introduction

The Finnish object marking system is well known for the complex interplay of quantificational and aspectual features that determines the case of the object: whether it is in the partitive or accusative<sup>1</sup> (see, for example, Heinämäki [1984, 1994]; Kiparsky 1998; Huumo [2010, 2013]; for a more detailed account see Section 2). Put briefly, the partitive object expresses one of the following three features, singly or in combination:

- (i) the object refers to an unbounded quantity (i. e., it is non-quantized; Example (1));
- (ii) the aspect is non-culminating, as in (2),<sup>2</sup> and/or
- (iii) the object nominal is under negation, as in Example (3).

The accusative designates a bounded quantity (i. e., it is quantized) that participates in a culminating event, expressed by an affirmative clause, as in (4).

- (1) *Ost-i-n kahvi-a.*  
 buy-PST-1SG coffee-PAR<sup>3</sup>  
 ‘I bought coffee.’

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**1** Unlike Hakulinen et al. (2004) in their grammar, I use the traditional term *accusative* for the ending *-n* that marks some object nominals in the singular and looks similar to but is historically distinct from the genitive (see e. g., Anttila 1989: 103), which likewise has the ending *-n* in the singular. In the plural, the nominative is used to express accusative-like meanings (bounded quantity + culmination). For simplicity, I refer to all non-partitive objects as *accusative objects*. The notion is thus defined in syntactic rather than morphological terms. Where necessary, I use the term *accusative case* for the morphological *-n* accusative. In addition, Finnish personal pronouns have a distinct accusative form ending in *-t*.

**2** *Non-culminating aspect* is a cover term for several different aspectual meanings, all of which are expressed by the Finnish aspectual partitive object. These include atelic, progressive, cessative, and delimitative. An *atelic* event lacks a point of culmination altogether (an English example: *George watched TV*). A *progressive* event is ongoing at the topic time (*George was eating pizza*). A *cessative* event is of a telic nature but ceases before reaching its culmination (*George ate [some of] the pizza*). A *delimitative* event is atelic but bounded in time because of the clause-external context (*George watched TV [and fell asleep]*). Progressive, cessative, and delimitative are thus different kinds of *viewpoint aspect*. (See Huumo 2010 for a detailed account; for the term *topic time*, see Klein [1994: 3–9], who defines it as “the time for which a claim is made” [by a linguistic expression]).

**3** The following glosses are used: ACC = accusative, ADE = adessive, ALL = allative, ELA = elative, GEN = genitive, ILL = illative, INE = inessive, NEG = negation verb, NOM = nominative, PAR = partitive, (number+)PL = (person+)plural, PRES = present tense, PTCP = participle, PST = past tense, (number+)SG = (person+)singular.

- (2) *Liisa katso-i televisio-ta.*  
 name.NOM watch-PST.3SG television-PAR  
 ‘Liisa watched TV’; ‘Liisa was watching TV.’
- (3) *E-n huomaa sinu-a.*  
 NEG-1SG notice-PTCP you-PAR  
 ‘I did not notice you.’
- (4) *Ost-i-n kahvi-n.*  
 buy-PST-1SG coffee-ACC  
 ‘I bought the coffee’, ‘I bought a [cup of] coffee.’

In (1), the partitive object indicates that the quantity of the coffee I bought is unbounded (‘some coffee’). An accusative object in the same context (Example 4) expresses a bounded quantity. Though Finnish does not express definiteness grammatically, the generalization can be made that when a partitive object designates an unbounded quantity (as in 1), it is indefinite (Vilkuna 1992: 52–55). An accusative object that designates a bounded quantity of a mass or a plural (the first English translation of (4)) is interpreted as definite in most cases (Heinämäki 1994: 222).<sup>4</sup> In Example (2), the partitive object indicates non-culminating (here, atelic) aspect but not quantity. In (3), the partitive signals that the object (‘you’) is under negation.

In the typology of differential object marking (DOM) strategies put forward by Iemmolo (2013), the Finnish system instantiates the *symmetric* strategy, with two (or more) overt case markers for objects. The alternative option in Iemmolo’s typology is an *asymmetric* system, based on the opposition between zero and overt marking. According to Iemmolo, symmetric systems are common in the Baltic region, typically expressing oppositions such as affectedness, boundedness, quantity and negation. The Finnish system is thus a typical instance of the symmetric DOM system.

In this article, my focus is on Finnish mass and number quantifiers when they quantify object nominals (noun phrases). Quantifiers complicate the system outlined above even further, since they introduce additional quantificational and aspectual layers to the clause. This often means that features of quantity and aspect may concern either individual component events participated in by one sub-quantity (typically one entity), or the higher-order event in which the

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<sup>4</sup> The second-mentioned, indefinite reading of the accusative *kahvin* (‘I bought a coffee’) follows from the fact that when it designates an individual serving, ‘coffee’ is used as a count noun. Accusative-marked count nouns are mostly vague with regard to definiteness.

whole quantity is a participant. For example, in *Paula ate many apples*, each component event consists of eating one apple, while the higher-order event consists of the sequence formed by such component events. Since one of the main functions of the Finnish object case marking is to indicate the opposition between bounded (ACC) and unbounded (PAR) quantities, it is conceivable that the quantification expressed by quantifiers will somehow relate to the quantification expressed by the case marking. Furthermore, since object nominals are often INCREMENTAL THEMES (i. e., their part-whole relations are homomorphic to the part-whole relations of the event, as in *mow the lawn*; see Dowty 1991), quantifiers may be expected to also contribute to the aspectual meaning of a clause-level expression. I will argue that the case marking of a quantified object nominal mainly reflects features of the component events, while the meaning of the quantifier itself relates to the higher-order event (which involves the whole quantity).

The discussion is structured as follows: Section 2 presents a more detailed account of the Finnish object case marking system and its quantificational and aspectual features. Section 3 briefly introduces the standard diagnostics I use in testing the aspectual type of clause-level expressions. These include the Finnish counterparts to such phrases as *in an hour* (which combines with telic predications, as in *George read the essays in an hour*) and *for an hour* (which combines with atelic predications, as in *George read essays for an hour*). In Section 4, I discuss the contributions of mass quantifiers (4.1) and number quantifiers (4.2) to the overall aspectual and quantificational meaning of the clause-level expression. Section 5 sums up the results.

## 2 The case marking of the Finnish object: a combination of aspect and quantity

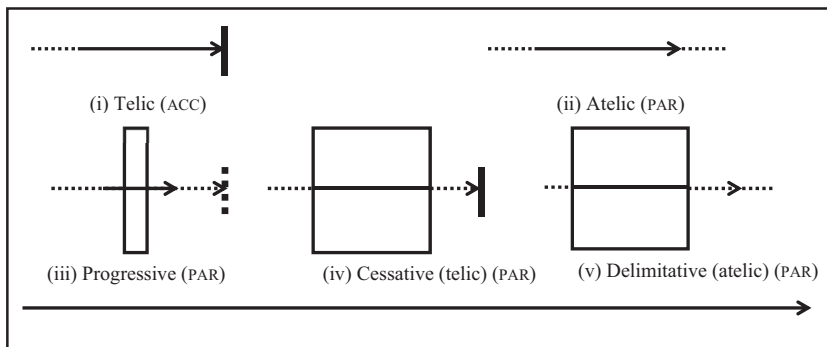
In this section, I introduce the relevant aspectual and quantificational notions by means of schematic illustrations, and give examples of their expression in the Finnish object marking system. With regard to aspect, it is important to first distinguish between on the one hand the overall *aspectual type* of the designated event as such (*telic* vs. *atelic*), on the other aspectual viewpoints upon such events (often referred to as *viewpoint aspect*, see Smith [1997: 3]). A linguistic expression may profile (designate) an event in its entirety, or only some phases of the overall event (see Klein [1994] for details). For example, the English *progressive* (*be doing*) construction profiles, in Cognitive Grammar terms (Langacker 1991: 91–93), an arbitrary, de-temporalized sequence of an (overall)

event as an imperfective state. Since the Finnish partitive object often expresses progressive aspect (see e. g., Heinämäki 1984; Kiparsky 1998), viewpoint aspect is clearly relevant to the case marking. Another viewpoint aspect indicated by the partitive object is the *cessative*. I use this term to refer to a telic event that ceases before reaching its culmination. Consider Example (5), which has both a progressive and cessative reading.

- (5) *Jussi luk-i kirja-a.*  
 name.NOM read-PST.3SG book-PAR  
 ‘Jussi was reading a/the book’ [PROGRESSIVE];  
 ‘Jussi read from a/the book [but did not finish it]’ [CESSATIVE].

The difference between progressive and cessative aspect is that the former profiles (indicates) the event as ongoing at the topic time (i. e., at the time for which a claim is made; see Klein 1994), while the latter profiles all those phases of a (telic) event that are actually carried out before the event ceases. Closely related to cessative aspect is *delimitative* aspect (see e. g., Janda 2004), referring to an atelic event that goes on for some time and then ceases. Thus Example (2) in Section 1 has a delimitative reading, in which Liisa watches TV for a while and then for instance falls asleep. Figure 1 illustrates the relevant aspectual notions, together with labels representing the Finnish object types (ACC vs. PAR) that express them in the aspectual case-marking system (disregarding quantification).

In Figure 1, the upper row represents (i) telic and (ii) atelic events that are linguistically expressed in full. Unless quantification mandates otherwise (as in Example (1)), a transitive clause that expresses a telic event takes the accusative object, as in Example (4), while one expressing an atelic event takes the partitive



**Figure 1:** Aspectual notions of telic, atelic, progressive, cessative and delimitative, and aspectual object marking.

object (Example (2); see Heinämäki 1984, Heinämäki 1994; Kiparsky 1998). The solid vertical arrow represents the unfolding of the actualized (segment of the) event in time; the rectangle, if present, marks what the aspectual expression actually profiles (indicates). In other words, the rectangle marks the segment of the event covered by the topic time.

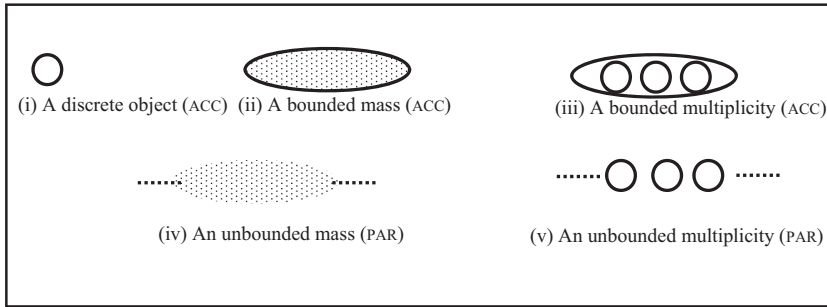
In (i) and (ii), full events are profiled. For instance, *I ate an apple* profiles a telic situation that advances to its culmination, which it reaches when the whole apple has been eaten. The point of culmination is symbolized by the thick vertical line in (i). Atelic situations, such as *I watched TV* (ii), lack culmination and can (in principle) go on indefinitely. A progressive expression (iii) profiles a segment of a more extensive event, which may itself be telic (as in *I was eating an apple*) or atelic, as in *I was watching TV*. Such potential telicity is illustrated by the dotted vertical line. The rectangle in (iii) again symbolizes topic time, while the solid arrow passing through the rectangle illustrates the fact that the event is ongoing at the topic time. The dotted arrow and the dotted vertical line that represents the (potential) culmination of the event in (iii) are not profiled.

An ongoing (telic) event may cease before it reaches its culmination. This kind of cessative meaning is illustrated by (iv). A cessative expression designates the actualized phases of a telic event that is interrupted before its culmination (as in *I almost read the whole book*). The thick vertical line in (iv) illustrates the point of culmination that the event fails to reach. Lastly, a delimitative event (v) is an atelic event that goes on for some time and then ceases ('to do something for a while'). For example, in *I watched TV and fell asleep* the atelic event of 'watching TV' is delimited by the subsequent event 'fall asleep'. Delimitative events differ from cessative ones in that they are not progressing towards a culmination.

With regard to Finnish aspectual object marking, Figure 1 also indicates that the aspectual function of the accusative object (morphologically, ACC or NOM) is to indicate meaning (i) only: that the event is telic by nature and that it actually culminates (Example (4) above). In all other cases (ii–v), the aspectual partitive object is used (see also Heinämäki 1984, Heinämäki 1994; Kiparsky 1998). The partitive thus indicates lack of culmination but is vague as to the more precise aspectual nature of the designated event. The aspect it expresses can be progressive (Example (2) with the reading 'was watching'), atelic (Example (2) with the reading 'watched'), delimitative (Example (2) with the reading 'watched [for a while]'), or cessative, Example (5). As can be seen, many examples are ambiguous between two or more of these readings.

In addition to aspectual features, quantity plays a role in Finnish object case marking. In fact, aspect alone determines the case of the object only if the clause is affirmative and the object nominal is headed by a count noun in the singular, as in

Examples (2) and (3). If the object nominal is headed by a mass noun, as in (1) and (4) or by a plural form, the case alternation additionally expresses quantification (see Heinämäki 1994: 222–223). Figure 2 illustrates the relevant notions of quantity, together with the kind of object they trigger (now disregarding aspectual matters).



**Figure 2:** The main types of quantity distinguished in this work, and the corresponding object types.

In Figure 2, (i) illustrates a discrete object, such as a ‘book’ or a ‘cat’. A discrete object constitutes a bounded quantity. Other kinds of bounded quantities include bounded masses (ii), e. g., *the coffee [in my cup]*, and (iii) bounded multiplicities, e. g., *the books [on that table]*. Perhaps more typically, however, masses (iv) and multiplicities (v) are quantitatively unbounded, as in *There’s coffee in the cup* and *There were papers all over the professor’s desk*.

With regard to the quantificational functions of the Finnish object case marking (still disregarding aspect), the accusative object (morphologically, ACC or NOM) expresses the bounded quantity types (i)–(iii) (Examples (6)–(8) below). The partitive object is used for the unbounded quantity types (iv) and (v) (Examples (9) and (10)). In the examples below, the object case is determined by quantity alone. This is because the verb ‘find’ is an achievement verb: it designates a telic event that culminates instantly; thus the aspectual factors that trigger the partitive (lack of culmination) do not play a role. The partitive thus expresses quantity only in (9) and (10). (See also Heinämäki 1994: 212.)

- (6) *Löys-i-n omena-n.*  
 find-PST-1SG apple-ACC  
 ‘I found an/the apple.’

- (7) *Löys-i-n kahvi-n.*  
 find-PST-1SG coffee-ACC  
 ‘I found the coffee [that was in the cupboard].’  
 ‘I found a [serving of] coffee.’
- (8) *Löys-i-n omena-t.*  
 find-PST-1SG apple-PL.NOM  
 ‘I found the apples.’
- (9) *Löys-i-n kahvi-a.*  
 find-PST-1SG coffee-PAR  
 ‘I found [sm]<sup>5</sup> coffee.’
- (10) *Löys-i-n omeno-i-ta.*  
 find-PST-1SG apple-PL-PAR  
 ‘I found [sm] apples.’

In addition to aspect and quantification, the partitive is triggered by negative polarity (as in Example 3). Since the object nominal in (3) (‘I did not notice you’), refers to a person, conceptualized as a discrete entity, a quantificational motivation for the partitive is excluded. The fact that ‘notice’ is an achievement verb also seems to exclude the aspectual motivation for the partitive. Negation and aspect, however, are interrelated, in the sense that a negated event obviously fails to culminate. This means that the lack of culmination may in fact be a relevant factor for the partitive of negation as well, as pointed out by Larjavaara (1991: 397–399) and Heinämäki (1994: 221).

Matters become more complicated when both aspect and quantification play a potential role in the case marking. In (11), the partitive can express unbounded quantity, non-culminating aspect, or both. This results in massive ambiguities regarding quantity and aspect (Kiparsky 1998: 7).

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<sup>5</sup> I follow the practice of Milsark (1974) and later Langacker (2016), among other scholars, who represent the English unstressed *some* as *sm*. According to Langacker (2016: 93), *sm* is an indefinite article for mass nouns and hence an element of grounding. It is often a natural translation equivalent for a Finnish partitive object motivated by quantitative unboundedness (for the expression of indefiniteness by the Finnish partitive with a comparison to English, see Chesterman 1991).



- (11) *Sö-i-n keitto-a.*  
 eat-PST-1SG soup-PAR  
 a. ‘I ate sm soup.’ [Partitive: quantification only]  
 b. ‘I was eating the soup.’ [Partitive: aspect only]  
 c. ‘I was eating soup.’ [Partitive: aspect + quantification]

Example (11) has (at least) three readings, given as alternative English translations (a)–(c). In reading a), the partitive object designates an unbounded quantity but not aspect: the event unfolds to its endpoint, at which an unbounded quantity of soup has been consumed. In reading b), the quantity of the soup is bounded (for example, a serving), and the partitive is motivated by the non-culminating (progressive) aspect. In reading c), aspect and quantification both play a role: the aspect is progressive and the quantity of the soup (to be eaten) is unbounded.

As illustrated in Figure 1, the notion of non-culminating aspect is quite heterogeneous. In addition to the subtypes already discussed (atelic, progressive, cessative, and delimitative), non-culminating aspects include at least two other types: *semelfactive* events in (12), which are punctual but lack a culmination and are thus expressed by the partitive object, and *degree achievements* (for these, see Hay et al. 1999; Rappaport Hovav and Levin 2002), which describe a change against an open scale (13), and are thus atelic. In contrast, a degree achievement that expresses a change against a closed scale triggers the accusative object as in (14). (Heinämäki 1984: 174.)

- (12) *Potkais-i-n pallo-a.*  
 kick-PST-1SG ball-PAR  
 ‘I kicked the ball.’
- (13) *Suurens-i-n kuva-a.*  
 enlarge-PST-1SG picture-PAR  
 ‘I enlarged the picture (somewhat)’; ‘I was enlarging the picture.’
- (14) *Suurens-i-n kuva-n.*  
 enlarge-PST-1SG picture-ACC  
 ‘I enlarged the picture (to a particular size).’

In (12) and (13), disregarding the progressive reading of the latter, the event ends in time but fails to culminate. In the semelfactive (12), the ball does not undergo a significant change of state that would trigger the accusative. In (13), which is a degree achievement, the event likewise ends in time, but since the scale of the

change (in this case, size) is conceptualized as open, there is no culmination. In (14), by contrast, the accusative evokes a closed scale: a certain desirable size is reached, and the event culminates. Examples (11)–(13) demonstrate that the key issue in aspectual case marking is not only whether the event continues or ends in time, but whether or not it culminates.

Yet another verb class that is relevant to the Finnish aspectual case alternation are so-called latent incremental theme verbs (Tenny 1992). According to Rappaport Hovav and Levin (2002: 6), these include the English *comb*, *rub* and *wipe*, which allow but do not require their quantized (quantitatively bounded) object to be conceptualized as an incremental theme, and may accordingly pattern as telic or atelic. For instance, *wipe* is telic in *She wiped the table in one minute* but atelic in *She wiped the table for one minute*. This ambiguity is shown by the verb's ability to combine either with a *for* phrase (which can be used with atelic predications) or an *in* phrase (which can be used with telic predications). In Finnish, the intended reading of such verbs is expressed by the case marking of the object; consider (15) and (16).

(15) *Hän pyyhki pöydä-n.*  
 3SG wipe-PST.3SG table-ACC  
 'S/he wiped the table.' [TELIC]

(16) *Hän pyyhki pöytä-ä.*  
 3SG wipe-PST.3SG table-PAR  
 'S/he wiped the table.' [ATELIC] or 'S/he was wiping the table.'  
 [PROGRESSIVE]

In (15), the accusative marks the event as telic by indicating that it culminates, when the whole table has been wiped. In (16), the partitive marks the event as atelic or alternatively progressive. In the atelic reading, the person carries out the wiping, but the event is not conceptualized as culminating. In the progressive reading, the event is ongoing at the topic time, and the overall event can be either telic or atelic.

The above discussion describes the Finnish object marking system concisely, and shows how case assignment works in expressions that involve unquantified object NPs (i. e., no quantifier is present). Matters are (even) more complicated when there is a quantifier that quantifies the object. This is because quantifiers contribute additional features related to aspect and quantification, and because quantified object nominals often behave idiosyncratically with regard to case marking and aspect. The most prominent idiosyncratic feature of quantified objects is that they often evoke the sense of aspectual culmination even in sentences that would otherwise designate aspectually non-culminating events.

### 3 Time-frame adverbials and temporal measure phrases as aspectual diagnostics

As a diagnostic for the aspectual nature of my examples, I will use time-frame adverbials such as ‘in an hour’ and temporal measure phrases such as ‘for an hour’ (for the term, see also Heinämäki 1994). As is well known (see e. g., Klein 1994; for Finnish; Leino 1991; Huumo 2010), time-frame adverbials combine with events that culminate (*She read the paper in an hour*) while measure phrases combine with events that do not culminate (*She watched TV for an hour*). The aspectual nature of events as culminating or non-culminating partly depends on quantificational factors expressed by nominals. For example, a bounded quantity that participates in a telic event with one sub-quantity following another gives rise to culminating aspect (*She ate the soup in a minute*, ACC in Finnish), while corresponding unbounded quantities result in non-culminating aspect (*She ate soup for a minute*, PAR in Finnish). Finnish time-frame adverbials are generally compatible with accusative objects, which indicate culminating aspect (Example (17); for some exceptions, see Heinämäki 1984; Huumo [2005, 2010]), while measure phrases are compatible with partitive objects as in (18), which express non-culminating aspect types. In Finnish, a time-frame adverbial takes the inessive ‘in’ case, as in (17), while a temporal measure phrases is in the accusative, as in (18).<sup>6</sup>

(17) *Lu-i-n            lehde-n       tunni-ssa (~\*tunni-n).*  
 read-PST-1SG paper-ACC hour-INE (~\*ACC)  
 ‘I read the paper in an hour (~\*for an hour).’

(18) *Katso-i-n       televisio-ta     tunni-n (~\*tunni-ssa).*  
 watch-PST-1SG television-PAR hour-ACC (~\*INE)  
 ‘I watched TV for an hour (~\*in an hour).’

The accusative case of the measure phrase in (18) can be analyzed as an indicator of aspectual boundedness at a higher level: the measure phrase expresses temporal bounding of an otherwise atelic event. In addition to atelic expressions such as (18), the compatibility of partitive objects and temporal measure phrases extends to expressions of progressive, cessative, and delimitative aspect. Thus, even telic predications rendered atelic by the partitive object allow temporal measure phrases (19).

<sup>6</sup> When under negation, a temporal measure phrase takes the partitive case: *E-n juos-sut tunti-a* [NEG.1SG run-PTCP hour-PAR] ‘I did not run an hour (but a shorter time)’. This feature of course makes such phrases morphologically very object-like.

- (19) *Lu-i-n lehte-ä tunni-n.*  
 read-PST-1SG paper-PAR hour-ACC  
 ‘I read the paper for an hour.’

The partitive object in (19) imposes a non-culminating viewpoint aspect upon the telic event ‘read the paper’ by excluding its culmination from the scope of the predication (see also Heinämäki [1994: 213]). As a borderline case, it is even possible that the whole paper was read in (19), but this is not expressed (by using the accusative object). In such a case, the reaching of a culmination is excluded from the scope of the predication.

## 4 Finnish mass and number quantifiers

In this section, I first introduce the classes of mass and number quantifiers in Finnish and then analyze their interplay with the object marking system, testing the aspectual behavior of expressions with time-frame adverbials and temporal measure phrases. I argue that both mass and number quantifiers give rise to meanings that involve a culmination at a higher level, even if the component events are of a non-culminating kind. Consider the English example, *A doctor sees several patients in an hour*, in which the *in an hour* phrase is felicitous even though the verb *see* is atelic and thus compatible with *for* phrases (as in *A doctor sees a patient for twenty minutes*). The telic meaning arises from the sequential nature of the delimitative component events, which follow one another in time and involve one patient each. As the higher-order event unfolds, the number of patients the doctor has already seen increases until it reaches the vague boundary specified by the quantifier *several*. This is also why Finnish quantified partitive objects (unlike unquantified ones) often allow time-frame adverbials in the same clause. An important difference between mass and number quantifiers is that mass quantifiers only allow collective readings, in which the quantified mass or multiplicity functions as an indivisible whole, while number quantifiers allow both distributive and collective readings,<sup>7</sup> sometimes resulting in scope alternation of temporal adverbials (time-frame vs. measure).

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<sup>7</sup> Such readings are also related to what Borer (2005: 35), who works in the generative tradition, calls the *nominal* reading and the *event* reading of some English quantifying adverbs (e. g., *mostly*).

## 4.1 Mass quantifiers

Finnish mass quantifiers quantify substances (in the singular) and multiplicities (in the plural). They typically select a *standard* as their point of reference, and present a positive or negative scalar assessment of the quantity with respect to such a standard (cf. Langacker's 2016 treatment of English quantifiers). For example, the quantifier *paljon* 'much; a lot [of]' designates a quantity that exceeds an implicit standard ('more than might be expected'), while *vähän*, when meaning 'little' (as in *There's little milk in the fridge*), designates a quantity that falls below such a standard ('less than might be expected'). However, *vähän* can also mean 'a little', in which case it selects the origin of the scale (i. e., zero) as its point of reference and gives a positive scalar assessment of the quantity expressed. Both readings of *vähän* ('little' and 'a little') are possible in Example (20), where the quantified nominal is headed by a mass noun in the singular ('water'). Example (21) illustrates the use of the quantifier *paljon* with a plural form. As illustrated by these two examples, Finnish mass quantifiers only quantify nominals in the partitive.

- (20) *Jo-i-n vähän vet-tä.*  
 drink-PST-1SG (a.)little water-PAR  
 'I drank (a) little water.'

- (21) *Lu-i-n paljon kirjo-j-a.*  
 Read-PST-1SG a.lot.of book-PL-PAR  
 'I read a lot of books.'

The partitive forms of the nominals 'water' (20) and 'books' (21) as such designate an unbounded mass. The quantifier then delimits the mass and renders the quantity bounded. Note that the function of the partitive case in such expressions is always quantificational, not for instance aspectual. This suggests that the partitive is conditioned phrase-internally by the quantifier rather than by the general clause-level rules of object case marking.<sup>8</sup> As the partitive in (20) and (21) is not motivated by aspectual factors, the meaning of these examples includes a culmination: the whole quantity expressed by the quantifier is affected. No progressive readings, for example, are available for these examples.<sup>9</sup> In fact, Karttunen (1975) has argued that partitive objects quantified by

<sup>8</sup> I thank an anonymous reviewer for this remark.

<sup>9</sup> However, in (21) it may still be possible to give the component events a cessative reading in which the person fails to finish some or all of the books. This is probably due to the lack of an

*paljon* ‘a lot of’ behave like accusative objects and designate culminating (or *resultative*, in his terminology) events. The analysis he proposes can, in my view, be generalized to all mass quantifiers in Finnish.

The accusative nature of object nominals quantified by mass quantifiers is not only syntactic but possibly also (historically) morphological. As the quantifiers *vähän* (in 20) and *paljon* (21) illustrate, many (though not all) Finnish mass quantifiers end in *-n*, which looks suspiciously similar to the ending of the accusative. Indeed, Tuomikoski (1978) has proposed that such quantifiers may be historical accusative forms of measure phrases, originally used in the same way as the temporal measure phrase *tunni-n* [hour-ACC] in Example (19). According to his hypothesis, an expression that originally meant ‘I drink milk a lot’ later grammaticalized to mean ‘I drink a lot of milk’, when the adverb of measure was reinterpreted as a quantifier. This hypothesis gains support from the fact that even in present-day Finnish, words used as mass quantifiers and ending in *-n* (such as *paljon* ‘a lot of’ and the near-synonymous *vähän*, *hiukan* and *hieman* ‘[a] little’) can be used as adverbs of measure as well as quantifiers (examples will follow).

When used as quantifiers, words like *paljon* or *vähän* are not strictly accusative elements in present-day Finnish. For instance, they can be used in syntactic environments that do not trigger the accusative, such as the S argument of an existential clause (22).<sup>10</sup>

- (22) *Paljon opiskelijo-i-ta tul-i konsertti-in.*  
 a.lot.of student-PL-PAR come-PST.3SG concert-ILL  
 ‘A lot of students came to the concert.’

Mass quantifiers such as *paljon* and *vähän* are forms not inflected in other cases (the Finnish case system comprises 15 cases). This is why their use centers on the functions of (existential) S and O arguments, along with some measure adverbs. For example, nominals used syntactically as adverbials often require inflection

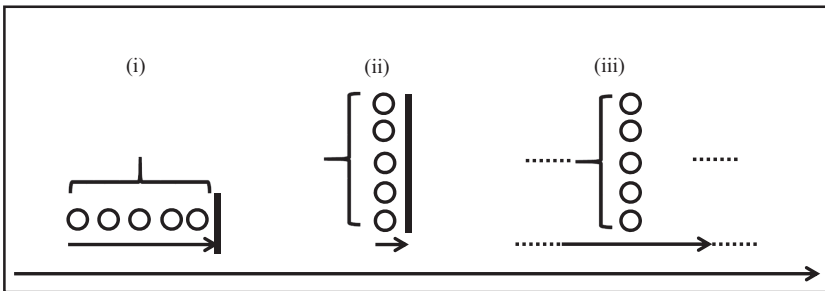
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accusative form that would explicitly indicate the culmination of the component events. The telicity of the example thus prevails at the higher-order level, where the quantity of books read (whether completely or not) increases until it reaches the boundary specified by the quantifier, and this counts as culmination. With mass nouns, as in (20), there are no distinguishable component events and hence no sub-quantity of (the designated) coffee that might remain undrunk. I thank an anonymous reviewer for drawing my attention to this matter.

<sup>10</sup> Traditionally, such S arguments are analyzed as grammatical subjects, but Huumo and Helasvuo (2015) present arguments against such an analysis. I use the term ‘S-argument’ for them (=the single argument of an intransitive predication, not necessarily a grammatical subject; cf. Comrie 2013).

in one of the local cases of the language, a feature that prevents the use of mass quantifiers in such functions.

In general, a quantity expressed by a quantifier can relate to time in two ways: sequentially (one sub-quantity following another, as in *I ate a lot of apples*) or simultaneously (the whole quantity at once, as in *I discovered a lot of apples under the old apple tree*). I will refer to the former type as *longitudinal quantity*, because the sub-quantities constituting it participate in the event one after another and the sub-events are thus distributed along the time axis. The latter type will be referred to as *transverse quantity*, because it can be thought of as transverse, or perpendicular, to the time axis. A longitudinal quantity is incremental: it cumulates gradually over time until it reaches the vague boundary specified by the quantifier, after which the event culminates. Consider the English *I ate a lot of apples in one hour*, where the acceptability of the time-frame adverbial demonstrates that the event is conceptualized as culminating. In contrast, the sub-quantities of a transverse quantity participate in an event simultaneously. The event itself may be punctual, as in *I noticed a lot of apples under the apple tree*, or atelic and durative, as in *I carried a lot of apples in my basket*. Note that even in the latter example, in spite of the non-punctual duration, the apples remain the same throughout the event. There are thus no distinguishable component events (concerning one apple each) following one another in time. Consider Figure 3.



**Figure 3:** A quantifier (the bracket) delimiting (i) a longitudinal quantity; (ii) a transverse quantity in a punctual-telic event; (iii) a transverse quantity in an atelic event.

Of the time-related types of quantities distinguished in Figure 3, the Finnish mass quantifiers that quantify object nominals can be used for (i) and (ii) but not for (iii). This in essence is the rule formulated by Karttunen (1975): an object phrase quantified by a mass quantifier has the function of an accusative object and designates a quantity that participates in a culminating event. In Figure 3,

quantity types (i) and (ii) occur in events that culminate, while type (iii) occurs in an event that does not culminate but is atelic (such as ‘carrying a lot of apples in a basket’).

Karttunen’s rule demonstrates that the partitive case of the nominal quantified by a mass quantifier does not have the aspectual function of the partitive. Quite the contrary: contexts that would trigger the aspectual partitive object do not allow *paljon* or *vähän* in the function of a mass quantifier. In such contexts, these words can be used, but they are understood as measure adverbs that relate to the verb, not to a nominal (see also Kiparsky [1998: 14]). Consider (23).

- (23) *Heikki rakast-i paljon auto-j-a.*  
 name love-PST.3SG a.lot car-PL-PAR  
 ‘Heikki loved cars a lot.’ (NOT: ‘Heikki loved a lot of cars.’)

In (23), *paljon* specifies the intensity of ‘loving’, not the quantity of the cars Heikki loved. Because of the atelicity of the verb ‘love’, there is no reading with a culmination in (23), and Karttunen’s rule prevents the interpretation of *paljon* as a nominal quantifier.

In some cases, words such as *paljon* or *vähän* are ambiguous between the functions of a mass quantifier and an adverb of measure. Example (21) above is a case in point: in addition to its primary meaning ‘I read a lot of books’ (given as its translation above), it can also mean ‘I read [the] books a lot’ – consider a student who reads the same exam books over and over again. More generally, such ambiguities arise in expressions that designate an accomplishment, which is a telic event with a non-punctual duration. Accomplishments are the most typical context in which the aspectually motivated case opposition between the accusative and the partitive actually works (i. e., they allow both cases, the accusative indicating culmination and the partitive lack of it).<sup>11</sup> If a word like *paljon* is used as a quantifier in such an expression, it again functions like an accusative object and indicates culmination, as in (21) with the reading ‘I read a lot of books (completely)’. However, if the verb itself allows an adverb of measure (as the verb ‘read’ does), *paljon* can alternatively fulfill this function. In that case, the event lacks a culmination (as the object nominal consists of the

<sup>11</sup> In contrast, many other verb classes do not allow the aspectual alternation. Achievement verbs only take the aspectual accusative (Examples (6)–(8)), and if the partitive is used with them, it can only indicate quantity, as in (9)–(10). Atelic verbs as in (2) and semelfactive verbs as in (12) only take the aspectual partitive object (not the accusative). In addition to accomplishment, other verb classes that allow the aspectual case alternation are degree achievement verbs (13 vs. 14) and latent incremental theme verbs (15 vs. 16).



partitive form alone), and *paljon* is understood as an adverb that quantifies the activity ('I did a lot of reading of the books').

With degree achievement verbs, mass quantifiers likewise trigger readings typical of accusative objects. Recall the 'enlarging the picture' in Example (14), in which the accusative object evoked a closed scale. In (24), the quantified object phrase similarly triggers the closed scale:

- (24) *Suurens-i-n paljon kuv-i-a.*  
 enlarge-PST-1SG a.lot.of picture-PL-PAR  
 'I enlarged a lot of pictures.' [Closed scale: the pictures are enlarged to a particular size.]

Alternatively, *paljon* can again be understood as an adverb of measure, in which case the scale is open and the adverb bounds (specifies) the change of size. Such a reading can be promoted by positioning *paljon* after the partitive-marked object nominal; consider (25):

- (25) *Suurens-i-n kuv-i-a paljon.*  
 enlarge-PST-1SG picture-PL-PAR a.lot  
 a) 'I enlarged [the] pictures a lot.' [Event quantification; open scale which the measure adverb bounds.]  
 b) 'As for pictures, I enlarged a lot of them.' [Nominal quantification, closed scale.]

With reading b), which is also possible, (25) is near-synonymous with (24) (disregarding emphasis and other such pragmatic factors): *paljon* specifies the quantity of the pictures that were enlarged to a particular size. The quantified nominal thus functions as an accusative object and triggers the reading with a closed scale. Alternatively, in reading a), *paljon* is an adverb of measure that delimits the change of size against an open scale. In this reading, it means that the pictures are made 'a lot larger' by enlarging them. The open-scale reading is possible because the object nominal now consists of the unquantified partitive form only. This kind of reading is the only one in (26), where *paljon* cannot be a quantifier, because the object nominal is headed by a count noun in the singular. Thus *paljon* can only be an adverb of measure that specifies the change on the open scale of temperature.

- (26) *Suurens-i-n kuva-a paljon.*  
 enlarge-PST-1SG picture-PAR a.lot  
 'I enlarged the picture a lot.' [I made it a lot larger.]

To sum up with a generalization: object NPs quantified by mass quantifiers behave like accusative objects, not only with respect to quantity but also in aspectual terms (as first pointed out by Karttunen 1975). In quantification, mass quantifiers delimit the unbounded mass or multiplicity expressed by the partitive and render it bounded. They also trigger a reading with culminating aspect: the event culminates when the total quantity has been affected. This boundedness is corroborated by the aspectual diagnostics used: only time-frame adverbials ('in an hour') but not temporal measure phrases ('for an hour') are well-formed with an object quantified by a mass quantifier (27). The situation is thus the opposite of that in sentences with unquantified partitive objects, which generally allow measure phrases but not time-frame adverbials (28) (see Borer [2005: 121] for an analysis of similar English examples).

(27) *Sö-i-n paljon omeno-i-ta tunni-ssa (~\*tunni-n)*  
 eat-PST-1SG a.lot.of apple-PL-PAR hour-INE (~\*ACC)  
 'I ate a lot of apples in an hour (\*~for an hour).'

(28) *Sö-i-n omeno-i-ta tunni-n (~\*tunni-ssa)*  
 eat-PST-1SG apple-PL-PAR hour-ACC (~\*INE)  
 'I ate apples for an hour (\*~in an hour).'

Note in particular that the temporal expressions in (27) cannot have a distributive reading: the example cannot mean that the eating of each apple took one hour. This is an important difference between mass and number quantifiers, as the latter often allow a scope alternation of time adverbials between collective and distributive readings. We now turn to the functions of number quantifiers, which are the topic of the next subsection.

## 4.2 Number quantifiers

Finnish number quantifiers differ in many ways from the mass quantifiers discussed above. While mass quantifiers have only one crystallized form (often ending in *-n*), number quantifiers agree with the quantified nominal in number and case. This is a feature they share with Finnish adjectives, and it means that number quantifiers are able to quantify nominals both in the singular (e. g., *moni mies* [many.NOM man.NOM] 'many a man')<sup>12</sup> and in the plural (*mone-t miehe-t* [many-PL.

<sup>12</sup> I use the English *many a* construction as a translation for the Finnish *moni* 'many' + singular construction, because of their formal and semantic likeness. However, it should be kept in mind

NOM man-PL.NOM] ‘many men’). Number quantifiers also have full case inflection, meaning that the nominals they quantify can be used in all central syntactic functions (subject, object, different kinds of adverbials). Example (29) illustrates a plural partitive object quantified by the number quantifier *usea* ‘many; a number of.’<sup>13</sup> Example (30) illustrates the use of the number quantifier *moni* ‘many’ in a possessor nominal, which is in the adessive case in the Finnish possessive construction, here used metaphorically to express a psychophysiological condition.

(29) *Löys-i-n use-i-ta sien-i-ä.*  
 find-PST-1SG a.number.of-PL-PAR mushroom-PL-PAR  
 ‘I found a number of mushrooms.’

(30) *Mone-lla lapse-lla ol-i nälkä.*  
 many-SG.ADE child-SG.ADE be-PST.3SG hunger.NOM  
 ‘Many a child was hungry.’ [Lit. ‘At many a child was hunger.’]

Example (29) also illustrates the interplay between partitive case and a number quantifier in object marking. Because of the achievement verb in (29), the plural partitive of the object nominal expresses quantity, not aspect. The quantity can alternatively be transverse (if all the mushrooms are found at once) or longitudinal (if the mushrooms are found one after another). In the latter case, the event is iterative and consists of component events. Were the quantifier not present, the reading with a longitudinal quantity together with the unbounded quantity of the component events would render the overall aspect non-culminating. Because of the quantifier, however, the quantity is bounded irrespective of whether it is transverse or longitudinal. The quantified object in (29) is thus semantically close to objects quantified by a mass quantifier such as *paljon* ‘a lot of’ (Section 4.1). In fact, it can be argued that despite its partitive case, the object nominal in (29) behaves like an accusative object in terms of aspect. Since Finnish number quantifiers are also used in the nominative, the puzzling question, according to Yli-Vakkuri (1979), is why the partitive object exemplified by (29) is nevertheless the unmarked option for the expression of a clause-level meaning that combines quantitative boundedness and aspectual culmination. One might expect the nominative *usea-t siene-t* [a.number.

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that the Finnish *moni* + singular does not share the idiosyncratic stylistic flavor of the English expression.

<sup>13</sup> Note that the English quantifying expressions I use as translations for the Finnish ones are **semantic** translations. In terms of morphology and syntax, they are often quite different from the Finnish ones. The quantifier *usea* is near-synonymous to *moni* and could thus alternatively be translated as ‘many’.

of-PL.NOM mushroom-PL.NOM] ‘a number of mushrooms’ to be used instead. I return to this matter at the end of this subsection.

As we have seen, both mass and number quantifiers quantify nominals in the plural. In the singular, their uses are quite different: mass quantifiers quantify nominals headed by a mass noun, while number quantifiers quantify nominals headed by a count noun. This reflects a difference in the conceptualization of the quantified entity. The same difference also concerns nominals in the plural, despite the fact that plurals allow both kinds of quantifiers. Mass quantifiers represent a conceptualization of both singulars and plurals as homogeneous, bounded masses, which only allow collective meanings. Number quantifiers represent plurals as multiplicities consisting of discrete entities, and often allow a distributive characterization of these entities.

The difference is clearest in the singular, where mass quantifiers only quantify nominals headed by a mass noun (‘a lot of water’ vs. ‘?? a lot of car’), while number quantifiers typically quantify nominals headed by a count noun (‘many a man’). Since masses are homogeneous and do not consist of discrete entities, the only way to use a number quantifier with a mass noun in the singular is to indicate a ‘kinds of’ meaning, as in (31).

- (31) *Moni viini on hyvä-ä.*  
 many.SG.NOM wine.SG.NOM be.PRES.3SG good-PAR  
 ‘Many a wine is good.’ (=Many kinds of wine are good, e. g., Burgundy, Chianti, Rioja...)

Since Finnish number quantifiers are used in both the singular and plural, it can also be asked, what the difference between the two actually is – after all, both seemingly refer to a multiplicity of entities. In spite of its singular form, the subject in (31) designates a multiplicity of (kinds of) wines, and the nominative plural *mone-t viini-t* [many-PL.NOM wine-PL.NOM] ‘many wines’ could be used instead to convey roughly the same meaning. In the spirit of Langacker’s (2016) Cognitive-Grammar analysis of English quantifiers, Huumo (2017) has argued that singular forms of Finnish number quantifiers (as in [28]) pick a virtual (non-actual) referent, which is then used as a representative instance of the whole set (see Langacker’s [2008: 293–295] and [2016: 146] treatment of the English quantifiers *each*, *any* and *every*). In contrast, plural forms explicitly refer to the whole set, like the English quantifiers *several* and *many*, which in most cases quantify plurals.

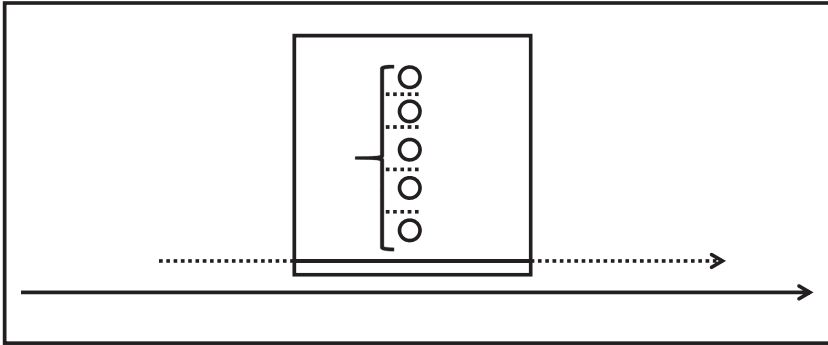
As regards the case marking of object nominals quantified by a number quantifier, the general principles introduced in Section 2 apply. The partitive case can express unbounded quantity (as in the plural Example (29) above), non-culminating aspect, as in (32), or negation, as in (33).

- (32) *Lu-i-n usea-a kirja-a.*  
 read-PST-1SG a.number.of-SG.PAR book-SG.PAR  
 ‘I was reading a number of books’ [PROGRESSIVE]; ‘I read from a number of books’ (without finishing any) [CESSATIVE].
- (33) *E-n löytä-nyt mon-ta(-a) sien-tä.*  
 NEG-1SG find-PTCP many-PAR(-PAR)<sup>14</sup> mushroom-PAR  
 ‘I did not find many mushrooms.’

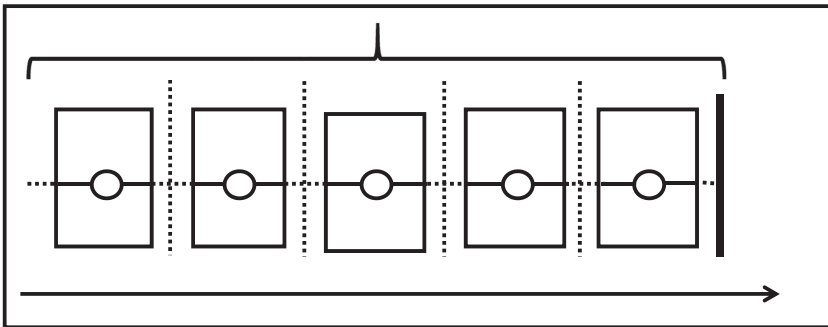
In (32), the head of the quantified object nominal is the count noun ‘book’. Since the object is in the singular and headed by a count noun, its partitive case can only express non-culminating aspect, not quantity. Unlike mass quantifiers (Section 4.1), Finnish number quantifiers thus do not reject the aspectual partitive case. More specifically, (32) has two readings, both instantiating non-culminating aspect: the progressive (‘was reading’) and the cessative (‘read from’, i. e., without finishing any book). A difference between the two readings is that the progressive establishes a viewpoint aspect in relation to a higher-order event that as such may be telic (= each book will perhaps be read completely), while the cessative aspect specifically means that no book is read completely. This demonstrates how the progressive relates to a higher-order event involving the whole quantity of books: at the topic time, some of these books have already been read (completely or not), others not. The cessative aspect triggers a distributive reading and concerns each component event separately: no book in the quantity is read completely. These cessative component events can be conceptualized alternatively as simultaneous (i. e., with a transverse quantity, as in Figure 4) or sequential (with a longitudinal quantity, as in Figure 5).

Figure 4 depicts a conceptualization in which the person is reading all the books simultaneously (e. g., a few pages from one book, then a few pages from another, and so on) but fails to finish any of them. The component events are cessative and (conceptualized as) simultaneous, and the quantity of books is transverse. The overall event inherits its aspectual profile from the simultaneous component events, and is likewise cessative. In Figure 5, the quantity is longitudinal and the cessative component events follow each other in time: the person first reads from one book, then from another, and so on. Importantly, the higher-order (collective) event can be conceptualized as culminating even though each component event is non-culminating. In the words of Heinämäki

<sup>14</sup> The quantifier *moni* ‘many’ has both a regular partitive form (*mon-ta* [many-PAR]) and an irregular, pleonastic partitive form (*mon-ta-a* [many-PAR-PAR]; Länsimäki 1995; Branch 2001; Nyman 2000). For the division of labor between the two, see Huomo (2017).



**Figure 4:** Example (32) with the cessative reading and a transverse quantity. The number quantifier (the vertical bracket) specifies the quantity of the books that are read simultaneously, without finishing any.

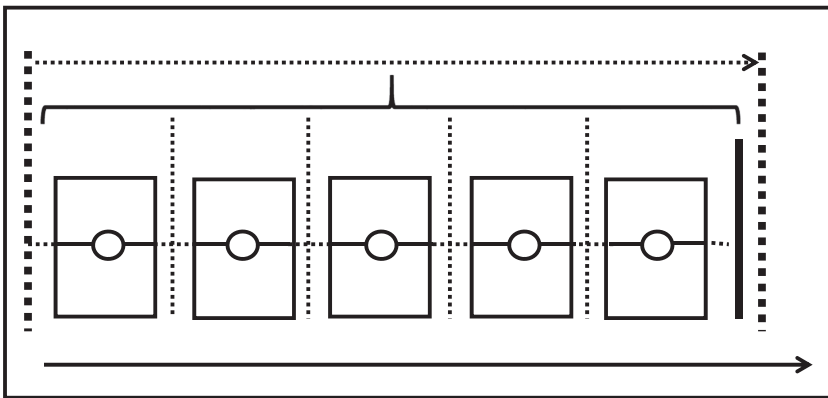


**Figure 5:** Example (32) with the cessative reading and a longitudinal quantity (the horizontal bracket). Each book in the set designated by the quantifier is read only partially, one after another. Each component event is thus cessative and lacks a culmination, and it is this aspectual feature that triggers the partitive.

(1994: 225), “the description of an activity can be bounded either with respect to the whole group denoted by the quantified NP, or with respect to individual members of the group”. The thick vertical line on the right in Figure 5 indicates the point of culmination of the higher-order event, a culmination which occurs when the amount of the books, each read only incompletely, has reached the (vague) quantity expressed by the quantifier. This makes the time-frame adverbial ‘in one day’ felicitous in (34) – but only if the quantity is conceptualized as longitudinal.

- (34) *Lu-i-n usea-a kirja-a päivä-ssä.*  
 read-PST-1SG a.number.of-SG.PAR book-SG.PAR day-INE  
 'I read from a number of books in one day.'

As pointed out by Yli-Vakkuri (1973, 1979), the fact that Example (34) is acceptable is exceptional – since aspectual partitive objects designate non-culminating events, they do not normally allow time-frame adverbials. The time-frame adverbial in (34) can only relate to the higher-order event, not to the component events, which are non-culminating. In other words, the example cannot mean that the books were read in a day each. Consider Figure 6:



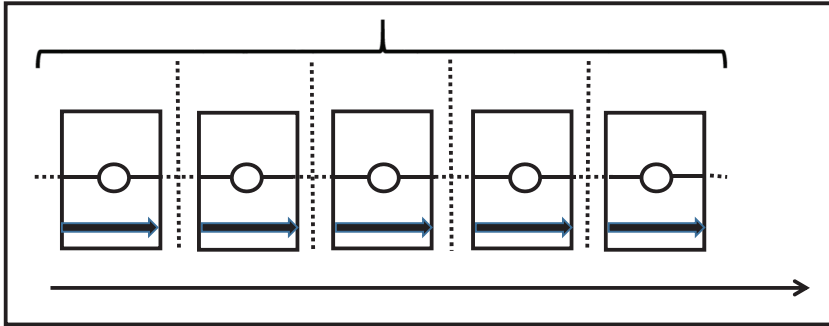
**Figure 6:** Example (34), with a longitudinal quantity and a time-frame adverbial: each book is read incompletely, one after another. The overall event culminates when the number of books (and hence of the component events) meets the quantity expressed by the quantifier. The dotted arrow above the bracket (indicating the time interval) and the dotted vertical lines (indicating the boundaries of the interval) illustrate the meaning of the time-frame adverbial.

In the same context a temporal measure phrase is also felicitous, but receives a distributive reading; consider (35).

- (35) *Lu-i-n useaa kirja-a päivä-n.*  
 read-PST-1SG a.number.of-SG.PAR book-SG.PAR day-ACC  
 'I read from a number of books, for one day each.'

In (35), the measure phrase expresses the duration of each component event (of reading from one book). This is plausible, because temporal measure phrases express the duration of non-culminating (atelic) events, and the aspectual

partitive in (35) indicates that the component events are such. The meaning of (35) is illustrated in Figure 7.



**Figure 7:** Example (35), with a longitudinal quantity and a temporal measure phrase with a distributive function: each book is read incompletely, one book after another. The measure phrase *päivän* ‘for one day’ (the thick vertical arrow at the bottom of each box symbolizing one component event) has a distributive reading in which it expresses the duration of the component events.

Now consider what happens if the accusative object is used in such examples. As usual, the accusative indicates culmination of the component events, e. g., that each book is read completely. A temporal measure phrase (‘for’) is therefore incompatible with both the individual component events (because they culminate) and the higher-order event (which likewise culminates); consider the ill-formed (36). A time-frame adverbial, on the other hand, is now compatible with both the component events and the overall one, and thus has both a collective and a distributive reading, as in (37):

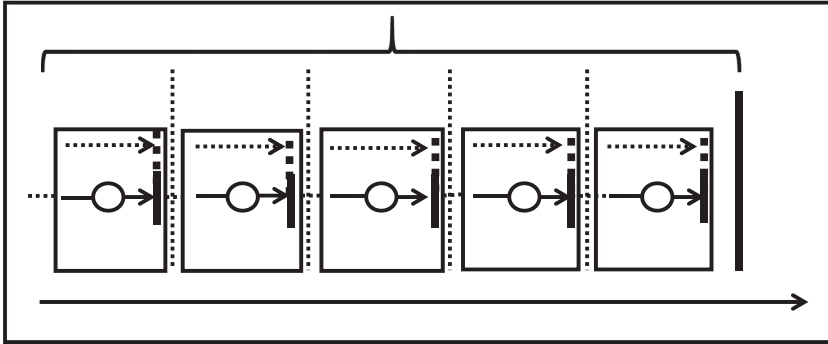
(36) \**Lu-i-n usea-n kirja-n päivä-n.*  
 read-PST-1SG a.number.of-SG.ACC book-SG.ACC day-ACC

(37) *Lu-i-n usea-n kirja-n päivä-ssä.*  
 read-PST-1SG a.number.of-SG.ACC book-SG.ACC day-INE  
 ‘I read a number of books (completely), all in one day.’  
 ‘I read a number of books (completely), each in one day.’

In (37), the accusative marks the component events as culminating: each book is read completely. The collective event is likewise culminating, because the quantifier renders the quantity of the books (and hence of the component events) bounded,



in the same way as in (34). This is why the time-frame adverbial can now alternatively relate to the collective event (in the same way as in Figure 6 above, with the exception that the component events now culminate) or with the component events in a distributive manner (Figure 8):



**Figure 8:** Example (37) with the distributive reading of the time-frame adverbial. The quantity is longitudinal and the component events are thus successive. The accusative object indicates culmination of each component event. The time-frame adverbial ‘in a day’ (the dotted arrow in each box) has a distributive reading and indicates the duration of each component event.

In sum, when an object nominal quantified by a number quantifier is in the singular (as in most of the examples discussed thus far), the division of labor between quantifier and object case is relatively straightforward. The partitive case of the nominal indicates the aspect of the component events, i. e., that they are non-culminating. The quantifier then establishes a higher-order event that comprises the component events, which, in a reading with a longitudinal quantity, follow one another in time. Since the quantity expressed by the quantifier is bounded, this higher-order event is conceptualized as culminating, despite the fact that the component events do not culminate. It is even possible for the component events to be altogether atelic, as in (38), an attested Internet example from Huumo (2016).

- (38) (*Oikein lukemalla luen vain muutamaa blogia, mutta*)  
*selaille-n päivä-ssä usea-a blogi-a*  
 browse-PRES.1SG day-INE a.number.of-SG.PAR blog-SG.PAR

(*ja laitan ylös mielenkiintoiset postaukset myöhemmin luettaviksi.*)

‘(I systematically follow just a few blogs, but) I browse a number of blogs in a day<sup>15</sup> (and make note of interesting posts for later reading).’

In (38) the verb *selailta* ‘browse’ is atelic and therefore only takes the aspectual partitive object (the accusative would be ill-formed). The partitive case expresses the atelic aspectual nature of each component event. Nevertheless, the quantifier *usea* ‘a number of’ is felicitous and evokes a higher-order collective event where the blogs are browsed one after another, and the component events are thus delimitative. When the longitudinal quantity of the blogs (and thus of the component events) reaches the quantity designated by the quantifier, the higher-order event culminates. This makes it possible to use the time-frame adverbial *päivässä* ‘in a day’ to designate its duration.

As might be expected, matters again become more complicated when the object is in the plural (as in (29) above), because the partitive can then express quantification in addition to aspect. First consider (39), which has a bare (unquantified) partitive object:

(39) *Sö-i-n omeno-i-ta.*

eat-PST-1SG apple-PL-PAR

- a. ‘I ate [sm] apples.’ [The partitive indicates quantity]
- b. ‘I was eating the apples.’ [The partitive indicates non-culminating aspect]
- c. ‘I was eating apples.’ [The partitive indicates non-culminating aspect together with unbounded quantity]

In (39), the plural partitive can indicate quantity (translation a), in which case each component event (of eating one apple) culminates. The unbounded quantity of the apples then renders the higher-order event atelic. The partitive can alternatively indicate non-culminating viewpoint aspect (translation b), in which case the quantity of the apples (to be eaten) is bounded. The third possible reading is a combination of unbounded quantity and non-culminating aspect (translation c).

Interestingly, when a number quantifier quantifies a plural partitive object, the quantificational reading of the partitive is strongly favored over the aspectual one. This means that both the component events and the overall event have

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<sup>15</sup> The example can be read as iterative, in which case it could also be translated as ‘I browse a number of blogs each day’ (cf. Heinämäki 1984: 176). For both meanings, Finnish uses the inessive-case time-frame adverbial.

culmination as their default reading, even though the non-culminating reading is also possible, as pointed out by Yli-Vakkuri (1973, 1979). Consider (40):

- (40) *Lu-i-n use-i-ta kirjo-j-a.*  
 read-PST-1SG a.number.of-PL-PAR book-PL-PAR  
 ‘I read a number of books (completely).’  
 ‘I was reading a number of books.’ (Non-culminating, progressive)  
 ‘I read from a number of books (none of them completely).’ (Non-culminating, cessative)

As regards the aspectual diagnostics of introducing a time-frame adverbial (e. g., *viikossa* ‘in a week’) or a temporal measure phrase (e. g., *viikon* ‘for a week’) into Example (40), both are acceptable (see also Heinämäki [1994: 227] for a discussion of such examples). However, the time-frame adverbial is more natural, since it preserves the default reading with culmination by relating to the higher-order event (‘I read a number of books, all in one week’). Heinämäki (1994: 226) points out that it is also possible for the time-frame adverbial to receive a distributive reading, in which case each book must be read completely. Such a reading thus excludes the aspectual function of the partitive case, which then indicates quantity alone.

The measure phrase (‘for a week’) is also acceptable in (40), on condition that it coerces the aspectual reading upon the partitive case (‘I read from a number of books, for a week each’). The quantified plural partitive in (40) is thus different from the singular partitive, which, as argued above, has an irrefutably aspectual function in object phrases headed by a count noun in the singular. In contrast, the quantified plural partitive favors an accusative-like reading, similar to the one it has with mass quantifiers. In this reading, the partitive designates a quantitatively unbounded mass, which the quantifier then renders bounded. Unlike mass quantifiers, however, the number quantifier in (40) does not exclude an aspectual reading of the partitive, if other elements of the sentence support such a reading (e. g., the presence of a temporal measure phrase).

Yli-Vakkuri (1979) points out that partitive-marked nominals with mass or number quantifiers alike often function similarly to the accusative object. Keeping in mind that number quantifiers allow full case inflection, we might thus expect such object nominals to be morphologically marked as accusative objects (i. e., to be in the nominative in the plural). Such objects in fact do occur, but they have more restricted and specific functions, as illustrated in (41) and (42);

- (41) *Ost-i-n mone-t kirja-t.*  
 buy-PST-1SG many-PL.NOM book-PL.NOM  
 ‘I bought many (sets of) books.’ (E. g., three sets of schoolbooks for three children.)
- (42) *Lu-i-n usea-t kirja-t puutarha-ssa.*  
 read-PST-1SG a.number.of-PL.NOM book-PL.NOM garden-INE  
 ‘I read a number of (the) books in the garden.’

As noted above in connection with Example (29), the nominative (as in (41) and (42)) might be expected to be the default case of quantified plural objects, since these clearly express a bounded quantity. However, as Yli-Vakkuri (1979) points out, quantified nominative objects have more idiosyncratic meanings, such as the ones in (41) and (42), since factors related to definiteness also play a role in such examples. In (41), the quantified object is clause-final and has a default reading as indefinite, introducing a set of discourse-new referents (see Vilkkuna [1989: 65–71] for an account of Finnish word order and the definiteness of nominals that follow the verb). But such a function is atypical of objects in the plural nominative, which favor a definite reading (recall Example (8) in Section 1). With mass nouns and plurals, indefiniteness correlates with quantitative unboundedness and finds its most natural expression in the partitive object. The indefinite reading of (41) can only be saved if the plural nominative is understood as designating a bounded set of books, which is conceptualized as a discrete entity. With the number quantifier ‘many’, the object nominal then designates a number of such sets (with more than one book in each).

In (42), the object nominal is not at a clause-final position, and there is thus a more natural basis for understanding it as definite. Example (42) is felicitous if the quantifier selects a subset from among a more extensive definite set (for example, a subset of the books the speaker had borrowed from the library). The books read in the garden then constitute a subset of this more extensive set. Such a reading instantiates what is commonly referred to as the (semantic) *partitive construction* (for the notion, see Koptjevskaja-Tamm 2001; Luraghi and Huumo 2014). Together, Examples (41) and (42) illustrate Yli-Vakkuri’s (1979) point on how the quantified plural accusative object (morphologically nominative) has taken on more specific functions as opposed to the quantified partitive plural object (Example 40), which is the unmarked way to refer to a quantified but indefinite multiplicity of entities.

## 5 Conclusions

The foregoing analysis demonstrates that Finnish partitive objects quantified by mass or number quantifiers tend to designate bounded quantities together with culminating aspect at the level of the higher-order event. This is the case even if the component events constituting the higher-order event are themselves of a non-culminating kind or involve unbounded quantities. The situation is clearest with mass quantifiers that quantify partitive objects, both in the singular ('a little water' in Example (20)) and in the plural ('a lot of books' [21]). As first pointed out by Karttunen (1975), such object phrases behave like accusative objects in terms of quantity and aspect: their quantity is of a bounded type, and in terms of aspect, the designated event culminates. The aspectual diagnostics used, i. e., time-frame adverbials ('in an hour'), do not receive distributive readings expressing the duration of the individual component events. They can only receive a collective reading, expressing the duration of the higher-order event.

Number quantifiers are more variable in the boundedness they express. They allow both collective and distributive readings for time-frame adverbials ('in') and temporal measure phrases ('for'), depending on whether the component events culminate or not. The oppositions are clearest in the singular, as a singular partitive object headed by a count noun can only designate non-culminating aspect, not quantity. This means that the component events must be non-culminating and can as such be modified by temporal measure phrases, which then receive a distributive reading (e. g., 'I read from many books, for a day each' [35]). In contrast, a time-frame adverbial ('in a day' [34]) typically relates to the overall event, which is conceptualized as culminating even if the component events themselves are non-culminating. This culmination is due to the conceptualization of the quantity as longitudinal, which means that the component events, each involving one sub-quantity (typically an individual), follow each other in time. When the accumulating longitudinal quantity reaches the quantity indicated by the quantifier, the overall event culminates. This may be the case even if the component events are atelic (consider the English *A doctor sees several patients in a day*). This makes it possible to use a time-frame adverbial in such examples (e. g., 'I browse a number of blogs in a day' in Example (38)).

When a number quantifier quantifies the plural partitive, matters become even more complicated, because a plural partitive object has both aspectual and quantificational functions. However, examples such as (40) ('I read a number of books') are most naturally understood as designating a bounded quantity together with culminating aspect, at the level both of the component events and the

higher-order event. In other words, each book is read completely, one after another, and the partitive expresses quantity, not aspect. While an aspectual reading of the partitive, with non-culminating (cessative) component events, is possible in (40), it is a secondary reading. It can be made more prominent, however, by adding a temporal measure phrase ('I read from a number of books, for a day each.'). As Yli-Vakkuri (1973, 1979) points out, both mass and number quantifiers render the quantity bounded when they quantify a plural partitive object. Since the partitive case is not used in its aspectual function (but as an expression of quantity), both the component events and the overall event tend to be conceptualized as culminating. This means that Finnish quantified plural partitive objects typically express an indefinite, quantitatively bounded multiplicity, together with culminating aspect. This is also the reason why quantified partitive objects are the default option even in contexts where one might expect a quantified accusative object (morphologically nominative) instead.

**Acknowledgements:** This research was funded by the Academy of Finland (Project 285739). I thank the two anonymous reviewers of *Linguistics* for their invaluable feedback on earlier versions of this paper. I also thank Ellen Valle for checking my English.

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