Finnish partitive case as a determiner suffix[1]

Anna Asbury
Utrecht Institute of Linguistics OTS, Anna.Asbury@let.uu.nl

Adposition phrases in morphologically impoverished languages have a function similar to nouns with morphological cases in morphologically rich languages, leading some researchers to argue that some cases belong to the category P. The aim of this paper is to investigate whether all cases can be analysed as Ps. The focus is on partitive case in Finnish. Whilst cases with spatial interpretations in many languages appear to be strong candidates for analysis as members of the category P, it is argued that partitive case (and genitive in languages where there is no distinct partitive) spells out a functional head between P and D, and that it properly belongs to the D-system (quantifiers or determiners), not the P-system. Thus morphological cases do not form a coherent category in syntax. Instead, the items in morphological case paradigms relate to one of at least two different syntactic items: PP structures (cases with spatial interpretations) and determiner or quantifier projections (partitive, and partitive uses of genitive). Possible extensions are explored, both to other languages (English *of*) and to other cases (Finnish genitive and accusative).

1. Introduction

Traditional grammars make use of morphological case paradigms such as those in (1).

(1) Case paradigms from traditional grammars

a. Latin nominal case paradigm

case	'table'	'master'	'king'	case gloss
Nominative	*mensa*	*dominus*	*rex*	basic form
Vocative	*mensa*	*domine*	*rex*	address
Accusative	*mensam*	*dominum*	*regem*	direct object
Genitive	*mensae*	*domini*	*regis*	possessor
Dative	*mensae*	*domino*	*regi*	recipient
Ablative	*mensa*	*domino*	*rege*	by/with/from

b. German definite article case paradigm (Durrell 1996:60)

case	Singular			Plural
	Masculine	Feminine	Neuter	
Nominative	*der*	*die*	*das*	*die*
Accusative	*den*	*die*	*das*	*die*
Genitive	*des*	*der*	*des*	*der*
Dative	*dem*	*der*	*dem*	*den*

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c. Finnish nominal case paradigm (Kiparsky 2001:2, Karlsson 1999:18)

case	'bear'	case description
Nominative	*karhu*	basic form
Accusative	*karhu, karhu-n*	direct object
Genitive	*karhu-n*	possessor
Partitive	*karhu-a*	indefinite quantity
Essive	*karhu-na*	state (as a bear)
Translative	*karhu-ksi*	change of state ((turn) into a bear)
Inessive	*karhu-ssa*	inside
Elative	*karhu-sta*	out of
Illative	*karhu-un*	into
Adessive	*karhu-lla*	on/instrument
Ablative	*karhu-lta*	off
Allative	*karhu-lle*	onto
Abessive	*karhu-tta*	without
Comitative	*karhu-i-ne-*	with
Instrumental	*karhu-i-n*	(idiomatic)

In recent syntactic theorising, however, there has been an implicit decomposition of such case forms. It has long been observed that adposition phrases (PPs) in morphologically impoverished languages have a function similar to nouns with morphological cases in morphologically rich languages. This has led some researchers to claim that cases and adpositions belong to one and the same category (Fillmore 1968, Emonds 1985, 1987), forming part of the extended functional projection of the noun (Grimshaw 1991). More recently, more detailed research on spatial expressions has led to the proposal that 'local' case suffixes in certain languages belong to the category P (van Riemsdijk & Huybregts 2001, den Dikken 2003, Svenonius 2006, forthcoming). Such claims are based firstly on the similar function of adposition phrases in morphologically impoverished languages and case marked noun phrases in morphologically richer languages, and secondly on the observation that combinations of adpositions mirror combinations of cases cross-linguistically, with a general hierarchical ordering of path and place markers, such that place should be marked closer to the lexical head than path. These points of comparison are illustrated in (2).[2]

(2) Identity of case combinations in Lezgian and P combinations in English

a. sewre-**qh**
bear-POSTESS
'**behind** the bear'

b. sewre-**qh-aj**
bear-POSTESS-ELAT
'**from behind** the bear'

[2] The following abbreviations are used in the examples: ABL=ablative, ACC=accusative, ADESS=adessive, CL=clitic, DAT=dative, DEF=definite, DIR=directional, ELAT=elative, ESS=essive, GEN=genitive, INESS=inessive, LOC=locative, NOM=nominative, PART=partitive, PL=plural, REFL=reflexive, SG=singular.

c. sewre-**qh-di**
bear-POSTESS-DIR
'**to behind** the bear'
(from van Riemsdijk & Huybregts 2001:4)

At the same time, others maintain that there is a more general link between case and additional nominal functional structure, usually termed KP (Bittner & Hale 1996, Bayer, Bader & Meng 2001 among others). For the purpose of this article I will view KP as equivalent to PP, on the following grounds: firstly, the researchers on KP sometimes note that the K position may be filled by a preposition, and secondly, I will not discuss data which provides evidence for the need for a specific separate category K, and in the absence of such evidence it seems desirable to keep the set of categories to a minimum. The proposal should, however, be compatible with the notion KP, should it turn out to be necessary for independent reasons. I will refer to those morphological cases analysed as spelling out P projections as *P-affixes*.

The aim of this paper is to investigate whether *all* morphological cases can be seen as P-affixes, reaching the conclusion that such uniform treatment is not possible. I will contribute to the decomposition of the paradigms illustrated, focusing on Finnish partitive case, particularly in contexts such as that illustrated in (3), where the case seems to contribute indefiniteness or the force of a negative polarity item. Kiparsky (1998) argues that this case is associated with semantic unboundedness.

(3) Finnish partitive expressing unboundedness (Karlsson 1999)[3]
a. Purki-ssa on **leipä-ä**.
tin-INESS is bread-PART
'There is some bread in the tin.'
b. Silja joi **maito-a**.
Silja drank milk-PART
'Silja drank some milk.'
c. Silja ei juonut **maito-a**.
Silja not drink milk-PART
'Silja did not drink the/any milk.'
d. cf. Genitive, for bounded object
Silja joi **maido-n**.
Silja drank milk-GEN
'Silja drank the milk.'

I argue that the Finnish partitive is distinct both from the structural cases and from the P-affixes. The semantic content of partitive suggests that it comes more within the range of the DP than the PP, taking on a function similar to an indefinite article, negative polarity item, or quantifier. Thus it seems that, unlike the case suffixes with spatial interpretations, which are argued to spell out P heads, the Finnish partitive suffix

[3] The Finnish data are mainly drawn from Karlsson 1999. I have, however, adopted a different policy for the labelling of the cases. Karlsson treats a direct object N with ending *-n*, as in (3d) as accusative. In contrast, I label the *-n* ending as genitive and only the *-t* which appears on pronouns as accusative, in line with Vainikka 1993. This matter is addressed in more detail in section 3.2.

properly belongs to the D-system. It is more akin to the suffixal determiners in (4). I will refer to these items as *D-affixes*.

(4) Definite article suffixes (Giusti 2002:58)

a.	băiat-**ul**	(Romanian)
b.	djal-**i**	(Albanian)
c.	momče-**to**	(Bulgarian)
d.	gutt-**en**	(Norwegian)
	boy-DEF	
	'the boy'	

I will attempt to extend the analysis, arguing that certain items that carry similar meaning but have previously been analysed as adpositions, such as English *of*, may also belong to this category. It goes beyond the scope of the paper to give a detailed account of the syntactic structure underlying nouns with this case, but I propose that it involves a head lower in the extended projection of the noun phrase than the P layer and higher than the article, belonging more with the D-system than with the P-system. The conclusion will therefore be that morphological cases do not form a coherent category in syntax, but rather that the case paradigms apparent at the morphological level relate to different syntactic categories.

The structure of this paper is as follows. Section 2 outlines the core proposal, introducing the Finnish data in 2.1, and sketching an analysis in 2.2. Section 3 investigates possible extensions, looking at reanalysing English *of* in 3.1, and investigating whether Finnish genitive and accusative might also spell out nominal projections lower than the P layer in 3.2. Section 4 addresses several theoretical implications of the analysis. Finally, section 5 summarises the main findings and the issues still to be accounted for, thus concluding the paper.

2. Finnish partitive

I propose, on the basis of its distribution and interpretation, that the Finnish partitive case belongs to the D-system, rather than spelling out a case feature or a P head. This differs from past accounts, which have variably treated Finnish partitive as structural (Vainikka 1993), associated with aspect (Kiparsky 1998, Kratzer 2004), and as inherently assigned by unaccusative verbs (Belletti 1988). 2.1 presents data showing that partitive is distinct from other subject and object cases, in that it is semantically constrained, but also from P-affixes, in that it is not selected due to an idiosyncratic property of the predicate. 2.2 outlines my analysis.

2.1. Finnish data

The Finnish partitive is unlike other cases in that it emerges in contexts where one would expect to see structural nominative or accusative in many languages, but its distribution appears to be semantically constrained, relating to indefiniteness and boundedness (cf. Kiparsky 1998).

2.1.1. Partitive subjects

The Finnish partitive alternates with nominative on subjects, in three different contexts, as listed in (5), and illustrated in (6)-(8).

(5) Three contexts for partitive subjects:
(i) indefinite divisible non-count nouns (6)
(ii) indefinite plural count nouns (7) (whereas definite subjects are nominative)[4]
(iii) where the existence of the argument is completely negated (8)
Karlsson (1999:82-5)

(6) Partitive subject with divisible non-count nouns
a. Partitive mass noun as indefinite subject
Purki-ssa on **leipä-ä**.
tin-INESS is bread-PART
'There is some bread in the tin.'
b. cf. Nominative mass noun as definite subject
Leipä on purki-ssa.
bread is tin-INESS
'The bread is in the tin.'

(7) Partitive subject with plural count nouns
a. Partitive count noun as indefinite subject
Kadu-lla on **auto-j-a**.
Street-ADESS is.3SG car-PL-PART
'There are cars in the street.'
b. cf. Nominative count noun as definite subject
Auto-t ovat kadulla.
Car-PL are.3PL street-ADESS
'The cars are in the street.'

(8) Partitive subject with negation of existence
a. Partitive for negation of existence
Kadulla ei ole **auto-a**.
street not is car-PART
'There is no car in the street.'
b. cf. Nominative for non-complete negation
Auto ei ole kadulla.
car not is street
'The car is not in the street.'

Thus partitive appears in contexts in which one would expect a nominative subject in many languages. It seems to have the function of an indefinite article or quantifier in (6) and (7) and of a negative polarity item in (8).

2.1.2. Partitive objects

The Finnish partitive alternates with genitive on nominal objects, in four different contexts, as listed in (9), and illustrated in (10)-(13). [5]

[4] The situation is complicated by the fact that only nominative subjects appear to trigger agreement on the verb, and by the difference in word order, which suggests that the partitive may not in fact be a subject, but rather that there is a null expletive subject. Since the important point for the discussion here is the alternation with nominative, rather than subject status, I will not discuss this further.

(9) Four contexts for partitive objects:
(i) negative sentences (10)
(ii) indefinites of unlimited quantity (11),
(iii) incomplete actions[6] (12)
(iv) with verbs of emotion (13)
(Karlsson 1999:84-5)

(10) Partitive objects and negation
a. Partitive in negative sentence
En osta **auto-a**.
not buy car-PART
'I won't buy the car.'
b. cf. Genitive object in positive sentence
Osta-n **auto-n**.
buy-1SG car-GEN
'I buy/will buy the car.'

(11) Partitive indefinite objects, non-limited quantity
a. Partitive with indefinite quantity/incomplete action
Silja joi **maito-a**.
Silja drank milk-PART
'Silja drank some milk.'
b. Partitive object in negative sentence
Silja ei juonut **maito-a**.
Silja not drink milk-PART
'Silja did not drink the/any milk.'
c. cf. Genitive, completed action
Silja joi **maido-n**.
Silja drank milk-GEN
'Silja drank the milk.'

(12) Partitive object with incomplete actions
a. Partitive, incomplete action
Tyttö luki **läksy-ä**.
girl do homework-PART
'The girl was doing her homework.'
b. cf. Genitive, complete action
Tyttö luki **läksy-n**.
girl do homework-GEN
'The girl did (i.e. finished) her homework.'

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[5] Pronouns in such object positions have the accusative *-t* suffix. For the sake of simplicity I have illustrated the partitive object alternation only with full nouns with genitive *–n*, since the focus here is on the semantic constraints on partitive, not on its alternate. The genitive/accusative matter is addressed in section 3.2.

[6] Karlsson uses the terms *resultative* and *non-resultative aspect*. I have avoided these terms as they are used in differently in theoretical works on aspect.

(13) Verbs of emotion with partitive objects

a. Rakastan **tuo-ta** **nais-ta**.
love that-PART woman-PART
'I love that woman.'

b. Pelkäätkö **koir-i-a**?
fear dog-PL-PART
'Are you afraid of dogs?'

c. Säälin **hän-tä**.
pity 3SG-PART
'I pity him/her.'

Thus the partitive object appears in contexts where one would expect an accusative in many languages. It seems to have the function of a negative polarity item in (10) and (11). Examples (12) and (13) indicate a relationship with aspect, partitive being used for unbounded objects, and genitive for bounded objects (Kiparsky 1998). Even the use with verbs of emotion seems to be distinct from the normal sense of 'inherent' case on objects, since it can be explained by the fact that these verbs inherently involve an activity which is not aspectually bounded.

2.2. Towards an analysis

The use of the partitive presented in the preceding sections is distinct from uses of other 'inherently selected' cases (PP structures under my assumptions).

(14) 'Inherently selected' cases in Finnish (from Fong 2001:2)

a. Sointu kehoitti Toinia laula-ma-**an**.
Sointu encouraged Toini sing-INF[7]-ILL
'Sointu encouraged Toini to sing.'

b. Sointu kielsi Toinia poltta-ma-**sta**.
Sointu forbade Toini smoke-INF-ELAT
'Sointu forbade Toini to smoke.'

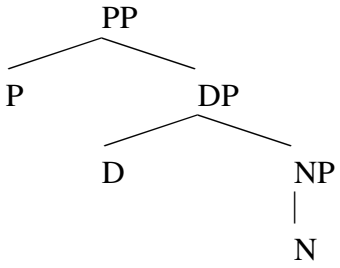
In these examples the illative and elative cases appear to be required by a semantically determined property of the selecting heads. In contrast, the use of partitive in place of a nominative subject or accusative object appears to be independent of the lexical content of the assigning head (making it look more like a structural head), and yet semantically determined (making it look more like an inherent case, a P-affix under the view adopted here).

The uses of the partitive seem to be related to expression of indefinite quantity and negative polarity. For this reason, I suggest that the partitive can be seen as a type of quantifier or determiner head, rather than either the morphological realisation of a structural case feature or a P head. This section presents a sketch of the way in which the distinctive behaviour of the partitive might be analysed and puts it into its theoretical context. If some case inflections spell out P because it is an extended projection of the noun (the P-affixes introduced above), then, by the same logic, it is expected that other intervening functional heads, such as determiners and quantifiers,

[7] The Finnish infinitive behaves like a noun in that it can take certain case forms (Karlsson 1999:182).

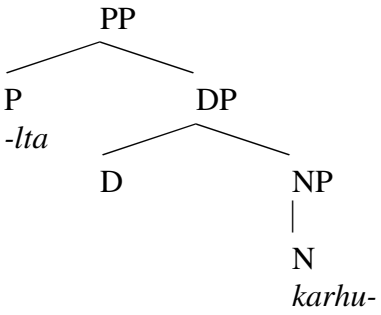
should also sometimes be seen as inflections on the noun (D-inflections, like the determiner suffixes in (4)).

(15) Schematic structure of a fully specified noun phrase

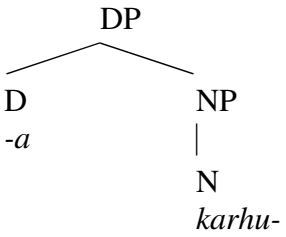


I suggest that the apparently anomalous behaviour of the Finnish partitive can be explained by treating it as a D-affix. Thus basic structures for Finnish ablative and partitive nouns would be as follows.

(16) Finnish ablative structure
karhu-lta
bear-ABL
'from the bear'



(17) Finnish partitive structure
karhu-a
bear-PART
'of the bear'



From these structures the word orders would then be derived by movement. I will not attempt here to decide between accounts involving affix hopping or raising.

3. Extensions of the analysis

In this section I attempt extensions of the analysis of Finnish partitive in two directions: firstly I look at English *of*, showing that the proposal could apply to a language which uses prepositions rather than case suffixes, and secondly I suggest that an analogous reanalysis of Finnish accusative and genitive may be theoretically desirable.

3.1. English *of*

In this section I look for evidence for a similar category in English. I propose that the analysis of Finnish partitive may also shed light on the anomalous behaviour of English

of, which is unlike other English prepositions in several respects. Whilst other prepositions seem to be acceptable as arguments of cognate nouns and verbs, *of* cannot normally be used as a verbal complement.

(18) Prepositions as complements of nouns and verbs

a.	arguments **against** the war	a'.	He argued **against** the war.
b.	the destruction **of** the city	b'.	*He destroyed **of** the city.

Instead, *of* emerges as a default adnominal preposition, leading some researchers to suggest that it is the NP-internal structural case[8] (cf. de Wit 1997). Partitive use of *of* is normally restricted to NP-internal and quantifier-phrase-internal use in English.

(19) Partitive *of*

a. a cup/pot **of** tea
b. some/much **of** the fruit
c. ??He ate **of** the bread.

At earlier stages of the language, however, *of* was found with verbal objects (20)[9] and seems to have been an alternative to bare noun phrase objects (21).

(20) *of* as a verbal object in older texts, alternating with noun phrase objects (c, h)

a. Eat ye every man **of** his own vine, and every one **of** his fig tree.
b. They did eat **of** the unleavened bread among their brethren.
c. Drink **of** this potion.
d. 'Twill fill your stomachs; please you eat **of** it.
e. I would you would accept **of** Grace and Love.
f. Hear him debate **of** commonwealth affairs.

(a-b from the Bible, II Kings, King James Version, 1611; d-f from Shakespeare)

(21) Noun phrase objects

a. He did eat bread continually before him all the days of his life.
b. I'll steep this letter in sack and make him eat it.

(a from the Bible, II Kings, King James Version, 1611; b from Shakespeare)

Even in modern English, it could be argued that the regular use of *of* has some connection with the incompleteness of the object, analogous to the Finnish partitive. Thus the use of *of* with the objects of nouns and adjectives (22), where the cognate verb has no *of*-phrase object could be explained by the fact that the verb can be tensed (making explicit the degree of completeness of the action), whereas the nouns cannot be tensed and the adjectives denote states.

[8] This differs from the standard Principles and Parameters approach, according to which nouns cannot assign structural case and the insertion of a semantically empty preposition such as *of* allows for case-marking of the complement (Chomsky 1981:50-1).

[9] On the basis of a brief search through Shakespeare texts on Project Gutenburg <http://www.gutenberg.org/>, the use of *of* with verbal objects seems to be mainly limited to verbs involving consumption, as illustrated in the examples (and to verbs such as *speak*, *talk*, *think*, and *hear*, which also take *of*-phrases in modern English).

(22) Adjective and noun with *of* vs verb without *of*
  a. John is afraid of Mary.
  b. John's fear of Mary
  c. John fears Mary.

A similar argument might apply to verbs which can still take *of*-phrase objects in modern English, when compared with semantically similar verbs without this option.

(23) Verbs with and without *of*-phrase objects in modern English
  a. John often speaks/talks/*says of Mary.
  b. John often thinks/dreams/*considers of Mary.
  c. John has never heard/*listened of Mary.

Here the verbs which cannot take *of*-phrase objects are those that can involve completed actions, whereas those which are compatible with the *of*-phrases seem to denote processes rather than actions which can simply be completed.

Of fails several tests for membership of the category P. Here I refer to diagnostics sometimes used for arguing that particles and prepositions belong to one category (cf. Svenonius 2006, drawing on Emonds 1972). *of*-phrases cannot prepose (24) or be modified by *right* (25).

(24) Preposing
  a. Into the house he ran!
  b. Down the street rolled the carriage!
  c. On the hill stands a castle.
  d. *Of the party he thought!

(25) Modification by *right*
  a. He pointed the gun (right) at the child.
  b. He stayed (right) inside the tree trunk until the hunters had gone.
  c. He thought (*right) of the party.

Of is also noteworthy for its apparent lack of semantic content by comparison with other prepositions. The notion of figure-ground relations applied to PP structure in Svenonius (forthcoming), among others, cannot easily be extended to *of* for this reason. Where various researchers have claimed that path is positioned hierarchically above place (Riemsdijk & Huybregts 2001, Kracht 2002, 2003, den Dikken 2003, Svenonius forthcoming, among others), it is difficult to fit *of* into such structures. Whilst *of* can be selected by certain Ps (such as *out*), it is not clear that *of* in such a context has any kind of locational meaning. (26) (repeated from (2) above) illustrates the surface phenomena predicted by the hierarchical ordering of path and place. (27) shows that the same ordering works for many English prepositions, but not for *of*, which has no obvious locational meaning when it is selected by a spatial P, and cannot select a spatial P itself. This suggests that it is lower than P in the structure.

(26) Hierarchical ordering of path and place

a. sewre-**qh**
bear-POSTESS
'**behind** the bear'

b. sewre-**qh-aj**
bear-POSTESS-ELAT
'**from behind** the bear'

c. sewre-**qh-di**
bear-POSTESS-DIR
'**to behind** the bear'

(from van Riemsdijk & Huybregts 2001)

(27) Ordering of place/path Ps in English, contrasting with ordering with respect to *of*

a. from behind the tree
b. (out) from behind the tree
c. (from) out of the house (*of* has no obvious locational meaning)
d. north of the mountains
e. *of out/from the house (*of* cannot select other prepositions)

Although *of* can be used in several functions similar to the genitives and partitives discussed above (as a partitive, and in certain possessive constructions), the link with determiners is not clear in English. A possible counterargument to analysing *of* as belonging to the DP layer is the acceptability of stranding.

(28) English P- vs. D-stranding

a. I only know **these** children.
b. *Children, I know only **these**.
c. What were you thinking **of**?
d. What did you put the book **on**?

Giusti (1995) shows that there is a distinction between different types of determiner in several languages in this respect. Articles cannot be stranded, but other types of determiner-like words, such as quantifiers, can. She illustrates this with German and Italian.

(29) German quantifier float vs. determiner stranding (Giusti 1995:80)

a. Die Kinder kenne ich **alle**.
the children know I all
'I know all the children.'

b. Kinder kenne ich **viele**.
children know I many
'I know many children.'

c. *Kinder kenne ich **die**.
children know I the

(30) Italian quantifier float vs. determiner stranding (Giusti 1995:80)

a.	(I ragazzi),	li	conosco	**tutti**.
	(the boys),	CL.ACC	know.1SG	all
	'I know all the boys.'			
b.	(Ragazzi),	ne	conosco	**pochi**.
	(boys)	CL.GEN	know.1SG	many
	'I know many boys.'			
c.	*((I) ragazzi),	ne/li	conosco	**i**.
	((the) boys)	CL.GEN/ACC	know.1SG	the

It is possible that such an explanation might also apply to *of*, where the acceptability of stranding is explained by its having a position higher in the DP projection than the article. Thus lack of determiner stranding may not be counter-evidence for the proposal, and it is possible that the exceptional nature of English *of* amongst prepositions might be explained by reanalysing it as part of the D-system, rather than part of the P-system[10] (cf. Kayne 1994 on *of* in N-of-N constructions).

3.2. Finnish genitive and accusative

In this section I suggest that the reanalysis of the partitive as belonging to a quantifier or determiner category also opens the way to reanalysis of other cases, namely the genitive and accusative in Finnish. Looking again at the Finnish object data in section 2.1.2, (9)-(13) show that the object is partitive when associated with indefiniteness, unboundedness or polarity, and the genitive is used when the nominal object is definite or bounded. Thus the genitive appears to fulfil the function of a definite article, the category D.

The question then arises why this same case can also be found on possessors.

(31) Finnish genitive of possession

Mari-**n**	talo
Mari-GEN	house
'Mari's house'	

I suggest that the explanation is linked to the absence of definite determiners in Finnish. Whilst the absence of an overt indefinite determiner is not always an obstacle to indefinite interpretation, definite interpretation appears to require some overt marking. Since Finnish has no definite determiner, the only explicit definite D realisation available is the possessive marker *-n*. I suggest that this is suffixed to the possessor when there is a possessor present, but that in the absence of a possessor the definite head noun itself can raise to D, where it is suffixed with *-n*.

Whilst full nouns in bounded object positions receive genitive *-n*, pronouns in this position have a distinctive accusative ending *-t*.

[10] I do not assume that the same analysis can be extended directly to Dutch *van* and German *von*, in spite of their similar use in partitive expressions. This is because *van* and *von* in spatial expressions have clear directional semantic content (*from*). Furthermore, German *von* selects for a noun with dative case. If Bayer et al. (2001) are correct, then the dative case involves further structure above DP, such that it is no longer comparable with English *of*, which can only select for a DP.

(32) Finnish direct object pronouns vs full nouns (Vainikka 1993:157)

a. Pekka maalasi hän-**et**.
Pekka painted 3SG-ACC
'Pekka painted him.'

b. Pekka maalasi Juka-**n**.
Pekka painted Jukka-GEN
'Pekka painted Jukka.'

The pronouns also have the distinct genitive *-n* suffix in possessor function.

(33) Finnish pronominal possession (Karlsson 1999:20)
hän-**en** kirja-nsa
3SG-GEN book-3SG
'his/her/its book'

Furthermore pronouns are assumed to be inherently definite. Thus the account for full nouns cannot extend to bounded object pronouns. Instead I suggest that the explanation must lie in the functional projectional level which the pronominal forms spell out. It has been established that different pronouns may spell out different levels of nominal functional structure (cf. Cardinaletti & Starke 1999, Déchaine & Wiltschko 2002). Thus the Finnish pronouns would spell out a level somewhere above the noun phrase (allowing for definite interpretation without the necessity for the genitive strategy employed by the nouns). The accusative *-t* might then be the reflex of checking of the accusative case feature with T, in accordance with traditional minimalist thinking on case, a process which is perhaps morphologically overridden in full nouns by the need for spell-out of definiteness.[11]

The proposal here is more speculative than the arguments on partitive in the preceding sections, and really outlines the direction of future research on the topic. I would, however, argue that such an approach seems desirable on conceptual terms, allowing for a more consistent analysis of the *-n* suffix in Finnish.

4. Theoretical implications and problems

4.1. Coherence of the category P

The reanalysis of partitive allows a more semantically consistent characterisation of the category P, without expanding significantly the semantic coverage of the system of quantifiers and determiners. Part of speech categories can be distinguished at the levels of morphology, syntax and semantics. Ideally, the categories defined at one level match those defined at another level. For nouns, verbs and adjectives this can be broadly maintained. For example, nouns might be characterised by a semantic core denoting entities, verbs as denoting events, and adjectives as denoting qualities. The classes characterised in this way can often correlate with specific derivational suffixes which distinguish them from the other categories, and particular patterns of syntactic behaviour. This cannot be said of the category P. Whilst N, V and A are usually morphological words, with some consistency in derivational morphology, members of

[11] In fact plural object nouns also have this *-t* suffix instead of the genitive. It remains to be established in future research whether a unified account can be made of the pronominal accusative *-t* and the plural (nominative and accusative) *-t*.

the category P may be individual words or affixes. Even as words they lack consistent derivational morphology, and are found in syntactically different contexts, surfacing as verbal prefixes and particles, as well as in the more nominal-related contexts of adpositions and case morphology. The reason for considering P to form one category is that the form, and often the individual semantic content, of many Ps remain fairly constant in the use of one item in the different syntactic patterns.

(34) Consistent meaning/form of Ps across different syntactic contexts
  a. They had lunch **after** the lesson.
  b. Mary ran **after** John.

The category can be roughly semantically characterised as a class of relational markers, specifying the relationship of arguments and adjuncts to the predicate. These types of relations are normally either spatial relations (path/place) or thematic roles (explicit markings of agents, experiencers, beneficiaries, etc.). Much of the work on adpositions focuses on spatial relations, outlining a hierarchical path-place structure for such adpositions and explaining their role in aspectual interactions. The partitive meanings discussed here seem to be distinct from such spatial relations, and fail to take part in the same type of layered structure, as observed above with respect to *of* in English.[12] The partitive also seems to be a misfit amongst inventories of thematic roles. Intuitively speaking, the fact that an object is parted does not affect its patient/theme role, but rather the relevant quantity involved in the action.

4.2. Case paradigms and agreement

Under the current assumptions, the traditional notion of a case paradigm, illustrated in (1) is shown to be epiphenomenal, existing only at the morphological level. Different cases arise from different syntactic items: (i) uninterpretable features give rise to nominative and accusative, (ii) a determiner or quantifier head gives rise to partitive, and (iii) P heads give rise to the locative and directional cases. The stark difference between the nature of minimal pairs based on verbal and nominal inflectional paradigms might receive a partial explanation under this view. Where verbal person/number agreement paradigms result easily in neat minimal pairs, finding a minimal pair of sentences varying only case on the noun often involves a complete change of predicate, as illustrated in (35)-(36).

[12] There is evidence, however, for a diachronic relationship between certain source morphemes and the partitive functions discussed here. Kiparsky (1998), for example, notes that the Finnish partitive case is derived from the former elative marker, and the Dutch *van* and German *von* ('from') may well be on their way to becoming such partitive markers.

(35) Nominal vs verbal paradigms in German

Nominal paradigm	
Form	Gloss
der Mann	the.NOM man
den Mann	the.ACC man
dem Mann-(e)	the.DAT man-(DAT)
*des Mann-**es***	the.GEN man-GEN

Verbal Paradigm	
Form	Gloss
ich kauf-e	1SG buy-1SG
du kauf-st	2SG buy-2SG
er kauf-t	3SG buy-3SG
wir kauf-en	1PL buy-1PL
ihr kauf-t	2PL buy-2PL
sie kauf-en	3PL buy-3PL

(36) Minimal pairs based on the paradigms in (35)

a. **Ich** kauf-**e** ein Buch.
I buy-**1SG** a book.
'I buy a book.'
Du kauf-**st** ein Buch.
you buy-**2SG** a book
'You buy a book.'

b. Ich ***helfe*** **dem** **Mann-(e)**.
I help the.**DAT** man-(**DAT**)
'I help the man.'
Ich ***erinnere*** mich **des** **Mann-es**.
I remember 1SG.REFL the.**GEN** man-**GEN**
'I remember the man.'

Under the account presented here, the difference might be attached to the idea that the verbal paradigm involves agreement, whereas the cases are heads in the extended projection of the noun. The implementation of such an idea, however, and the way it might apply to systems with adjectival case agreement, remains to be worked out, requiring a clearer picture of the full structure of the noun phrase and possibilities for (and constraints on) feature sharing within the extended projection.

4.3. Case hierarchies

The proposal also has consequences for the implicational hierarchies of cases, sometimes mentioned in the typological literature and in work on thematic roles. Blake (1994) sketches a rough implicational hierarchy along the lines of (37), where a language which has locative case, for example, will also have all those preceding it on the hierarchy (nominative, accusative or ergative, genitive and dative).

(37) Implicational hierarchy of cases (Blake 1994:157)
nominative > accusative/ergative > genitive > dative > locative > ablative/instrumental > others

According to the view presented in this paper, it is necessary to make certain adjustments to the interpretation of such hierarchies. Instead of simply predicting the range of cases a language will have, the hierarchy predicts the likelihood of spell-out of a case in analytic (adpositional) or synthetic (affixal) form. For example, if a language spells out dative as an affix, then those cases preceding it on the hierarchy will also have

inflectional realisations, whereas if the dative is spelled out as an adposition, then those items following it on the hierarchy will also have adpositional realisations (cf. van Riemsdijk 1981). I assume that nominative, accusative and ergative must be taken from this list, on the grounds that nominative and accusative are structural (assigned or checked according to the structural configuration the noun enters into) and that not enough is understood about the distribution of ergative to identify it conclusively with one or other of the structures under consideration here.

Having allowed for these preliminary adjustments, I turn to the treatment of genitive in such a hierarchy. Clearly its present position cannot be correct. Hungarian has dative, locative, ablative/instrumental and many others, but no genitive. Moving the genitive down the hierarchy does not help because German and Greek have nominative, accusative, genitive, dative and no others. If the genitive is analysed as belonging to a different category, then it no longer has any place on such a hierarchy, and thus the generalisations of (37) can be maintained without running into such contradictions.

4.4. D-inflection and P-inflection combinations

The structure I have assumed for this paper leads to a particular prediction. Just as there are combinations of adpositions and determiners in one PP (e.g. *to the shops*), so one should expect to encounter examples of combinations of a D-suffix with a P-suffix. An explanation should be found for the complementary distribution of partitive and, for example, ablative (or other P-inflections) in Finnish. I suggest that the explanation may lie in morphophonological constraints, limiting the number of possible affixes which can attach to lexical heads within specific languages. Thus a full account of the Finnish data would require a notion of morphological competition for the suffixal slot on the noun, with the P-inflection winning (because it is the higher or more semantically marked head, perhaps) where it is present.

Still, languages clearly do exist in which more than one suffixal slot is available on the noun. Lezgian would be one such example, where there are productive combinations of two P-inflections, one representing path and the other place.

(38) Lezgian multiple suffixing

a. sewre-**qh**
bear-POSTESS
'**behind** the bear'

b. sewre-**qh-aj**
bear-POSTESS-ELAT
'**from behind** the bear'

c. sewre-**qh-di**
bear-POSTESS-DIR
'**to behind** the bear'

(from Riemsdijk & Huybregts 2001:4)

I am not at present aware of any languages with productive inflectional combinations of P-inflections with such partitive markers. It would be necessary to look for a language with such stacking of affixes and also productive use of a morpheme with partitive functions, as in Finnish, but this must remain for future research. At present, the only available evidence for productive combination appears to come from languages which

use separate words, rather than affixes, for these heads, as with English *out of*, French *près de* ('near'), and Modern Greek *prin apo* ('before').

5. Conclusion

The core point of this paper has been to demonstrate that partitive case (whether it is spelled out as 'case' morphology or a separate word normally assumed to be an 'adposition') does not belong in a syntactic case paradigm. Its behaviour fails to conform with that of the core structural cases or with the nominal suffixes which I argue elsewhere are associated with the category P. I have proposed instead that partitive belongs to the determiner system. I have drawn evidence from Finnish, arguing that the same analysis should carry over to English *of* and to the genitive case in Finnish.

A consequence of this analysis is that the nominal case paradigms, often used in the traditional literature and teaching grammars of morphologically rich languages, emerge as epiphenomenal. Instead of forming a coherent category, at the syntactic level the different nominal inflections spell out one of three items (i) structural case features, (ii) members of the category D, or (iii) members of the category P. Thus the division of the Finnish case paradigm from (1) would be as follows.

(39) Finnish nominal case paradigm

case	'bear'	underlying syntax
Nominative	*karhu*	case feature
Accusative	*karhu, karhu-n*	
Genitive	*karhu-n*	D
Partitive	*karhu-a*	D or Q
Essive	*karhu-na*	P
Translative	*karhu-ksi*	
Inessive	*karhu-ssa*	
Elative	*karhu-sta*	
Illative	*karhu-un*	
Adessive	*karhu-lla*	
Ablative	*karhu-lta*	
Allative	*karhu-lle*	
Abessive	*karhu-tta*	
Comitative	*karhu-i-ne-*	
Instrumental	*karhu-i-n*	

This has the advantage of providing the beginnings of an explanation for the use Finnish partitive case as part of a wider system, rather than as a language-specific exception. In a broader perspective, the analysis presented provides a typology of a range of nominal inflections usually ignored by generative literature (where most attention is paid to abstract structural nominative and accusative case, rather than to the wide variety of inflections termed 'case' in traditional grammars of morphologically rich languages). If the proposal can be successfully extended to other cases, then it might provide a useful tool for analysis of differential subject and object marking.

Much remains to be worked out in terms of the precise implementation of morphological rules determining where the different D and P heads would be spelled out in the extended nominal projection, and how the analysis fits with recent

developments in research into the DP and PP systems. I have not addressed the interaction of partitive and aspect, the focus of much past research on partitivity (Kiparsky 1998, Kratzer 2004). Although on the face of it my proposal differs quite significantly from these approaches, it seems intuitively plausible that they should be compatible, given a detailed theory of the interaction of definiteness and specificity of the object with the bounding of an event. These issues remain for future research.

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