Journal of East Asian Linguistics (2023) 34:551–593
https://doi.org/10.1007/s10831-023-09267-5

The syntax of individuating and measuring pseudo-partitives in Alasha Mongolian

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Received: 28 December 2022 / Accepted: 21 September 2023 / Published online: 7 December 2023

Abstract

Pseudo-partitive constructions give rise to multiple interpretive ambiguities including a container interpretation (i.e. individuating) and a contents (i.e. measuring) one. There are two competing analyses: one based on structural ambiguities (Landman in Indefinites and the types of sets, Oxford University Press, Oxford, 2004; Rothstein in Brill's J Afroasiat Lang Ling 1:106–145, 2009. https://doi.org/10.1163/187666309X12491131130783, a.o.) and one based on a uniform syntax (Lehrer in Lingua 68:109–148, 1986; Matushansky and Zwarts in Lamont and Tetzloff (eds) North East Linguistic Society (NELS) 47, Volume 2, pp 261–274, GLSA, Amherst, 2016, a.o.). I contribute to this debate with data from Alasha Mongolian (Mongolic), which differentiates each interpretation via case marking on the quantizing noun: *glass*-comitative = individuating vs. *glass*-genitive/Ø = measuring. I argue that there is no large-scale structural ambiguity: the numeral and the quantizing noun always form a constituent introduced in the specifier position of a null functional head (Schwarzschild in Syntax 9(1):67–110, 2006. https://doi.org/10.1111/j.1467-9612.2006.00083.x; Svenonius in McNally and Kennedy (eds) Adjectives and adverbs: syntax, semantics and discourse, Oxford Studies in Theoretical Linguistics, pp 16–42, Oxford University Press, Oxford, 2008; Ott in J Comp Ger Ling 4:1–46, 2011. https://doi.org/10.1007/s10828-010-9040-x). I propose that (i) case differences on the quantizing constituent boil down to the presence or absence of a case probe on a higher Agr head; (ii) and, the interpretive differences between the individuating and measuring pseudo-partitives are the result of a more subtle syntactic distinction in the feature content of the quantizing noun, i.e. an interpretable [±Container] feature.

Keywords Pseudo-partitives · Syntax-semantics · Container nouns · Case · Alasha Mongolian

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1 Introduction

Languages typically have dedicated morpho-syntactic means to express notions such as 'number' and 'amount'. For instance, in English numerals like '2' can modify a plural count noun as in (1). However, mass nouns like '*water/tea*' cannot combine with numerals directly, as in (2).[1]

(1) 2 books

(2) * 2 {water/ tea}

The presence of what is sometimes referred to as a 'quantizing noun' (Lønning 1987; Chierchia 1998) is required to mediate between the numeral and the mass noun. These quantizing nouns can also mediate between a numeral and a plural count noun. This is shown in (3) where, in addition to the lexical nouns *water/books*, there is a noun such as *kilos* or *glasses*. I will be referring to these nouns as quantizing nouns.

(3) a. 2 {liters of / glasses of} water

b. 2 {kilos of / boxes of} books

Constructions like (3) are referred to in the literature as pseudo-partitives (Selkirk 1977; Jackendoff 1977; Lehrer 1986; Schwarzschild 2006, a.o.). One peculiarity of pseudo-partitives is that they are multiple-way ambiguous (Lønning 1987; Landman 2004; Rothstein 2009, 2017; Partee and Borschev 2012; Sutton and Filip 2021). This is illustrated with (4), from Sutton and Filip (2021, p.279: ex.1):

(4) a. There are **two glasses of wine** standing on the coffee table.
b. Mary drank **two glasses of wine**.
c. Mary poured **two glasses of wine** into the stew by eye. The second a few minutes after the first.
d. We stirred **half a glass of wine** into the stew.

The interpretation of (4a) is making reference to the individual containers which are glasses and have wine in them. In other words, it is referencing the cardinality of glasses. I will call this interpretation *individuating* (IND). The interpretation of (4b) does not refer to the number of individual glasses, but to the quantity or volume of wine in two glass-sized contatiners. Thus, it is measuring the volume of wine. From now on, following Rothstein (2009), I refer to this interpretation as *measuring* (MEAS).[2] The interpretation of (4c) is similar to the one in (4b) because it makes reference to

[1] This is generally the case except for 'packaging' and 'sorting' contexts (Bunt 1985; Bach 1986).

[2] I illustrated the ambiguity with a container noun like *glass*, but the same two readings obtain with measure nouns like *kilo/liter/pound* as shown in (i) (see Doetjes 1997; Rothstein 2009; O'Connor and Biswas 2015, a.o.), though the IND interpretation is not as salient with these nouns:

(i) 2 pounds of apples.
a. A plurality of one-pound containers with cardinality 2, each of them contains apples. IND
b. A quantity of apples which measures 2 pounds worth. MEAS

the quantity of wine content poured, but it does not entail the existence of a glass. This is referred to as the *free portion reading*. Lastly, according to Sutton and Filip (2021, p.280), the interpretation of (4d) denotes an *ad hoc* measure in which "only the wine is referred to and it need not have been contained by any glass". In this paper, however, I will only concentrate on the first two, i.e. IND and MEAS, given that they are the most discussed in the literature and I leave the others aside for future research.

A prominent approach to deriving the ambiguity, within a single language and across languages, is based on syntactic ambiguity (Landman 2004; Rothstein 2009, 2017; Grestenberger 2015; Wilson 2018): pseudo-partitives have two distinct underlying structures, and each of them is mapped to a particular interpretation in the semantics. The specific proposals differ slightly from each other, but they all share the general idea that individuating pseudo-partitives have the cascading structure in (5) whereas measuring pseudo-partitives have some version of the structures in (6):[3]

(5) $[_{DP}\ [_{NumP}\ 2\ [_{Num'}\ \text{Num: } [_{PL}]\ [_{NP}\ \text{glasses } [_{PP}\ \text{of water}]]]]]$ (IND)

(6) a. $[_{MonotonicityP}\ [_{MP}\ 2\ \text{glasses }]\ [_{Monotonicity}\ \text{of } [_{NP}\ \text{water}]]]$ (Schwarzschild's MEAS)

b. $[_{NP}\ [_{MP}\ 2\ \text{glasses }]\ [_{N'}\ \text{(of) water}]]$ (Rothstein's MEAS)

Syntactically, the structures differ in terms of the underlying constituency and headedness. In (5), *glasses* is the head of the nominal extended projection and takes the *of*-PP as a complement; the numeral is introduced in NumP and has syntactic scope over everything. In (6), *glasses* forms a constituent with the numeral and projects a Measure Phrase (MP).[4] The MP occupies a specifier position either of a noun as in (6b) or a functional head that is overtly realized as *of* as in (6a). The head of the whole phrase is thus the substance noun or the functional head that takes it as complement.

This is a very attractive proposal as it deals with the ambiguity in a way similar to interpretive differences in the domain of PPs or relative clauses, but it certainly has not been unchallenged (Brasoveanu 2009; Matushansky and Zwarts 2016; Matushansky et al. 2017). In particular, Matushansky and Zwarts (2016) and Matushansky et al. (2017) argue that measure pseudo-partitives have the cascading structure in (5), thus ruling out a syntactic ambiguity account. It is very much an open question, then, what the underlying syntax of IND and MEAS pseudo-partitives is.

While in some languages like English or Spanish the morpho-syntax of IND and MEAS pseudo-partitives is similar, at least on the surface, other languages might make an overt distinction between the two interpretations. One such language is Alasha

[3] For some like Rothstein (2009, 2017) the numeral is the head of Num and *of* is inserted as a last resort at PF, so the substance noun projects an NP rather than a PP, making it the head of the whole nominal. We must bear in mind that the fact that P-stranding is possible in languages like English casts doubt on the hypotheses that (i) *of* is a case marker (Scontras 2014) or (ii) is introduced as a last resort and does not project a P (Rothstein 2009). For others like Wilson (2018) Num is vacuous and number information enters the derivation higher than the DP in the spirit of Sauerland (2003). I remain neutral as to the specifics of these proposals.

[4] I will be using the label MP purely descriptively, to refer to the constituent that contains a numeral and the quantizing noun. Later on in the paper, I show that the appropriate syntactic label is in fact a KP (Bittner and Hale 1996) or a DP.

Mongolian (Mongolic): the IND and MEAS interpretations correlate with a different case marker on the quantizing noun, as illustrated in (7) and (8):[5]

(7) a. gorovV-n devir-tei tsaV
three-ATTR pot-COMIT tea
'Three (individual) pots of tea'

b. gorovV-n { devr-in/ devir} tsaV
three-ATTR pot-GEN pot tea
'Three pots (worth) of tea'

(8) a. gorovV-n kilogram-tei tsaV
three-ATTR kilo-COMIT tea
'Three (one-)kilo units of tea'

b. gorovV-n { kilogram-in/ kilogram} tsaV
three-ATTR kilo-GEN kilo tea
'Three kilos (worth) of tea'

In both (7a) and (8a), the quantizing noun bears comitative case (COMIT) and the interpretation can only be in terms of cardinality and never volume: the individual {pots/1-kilo containers} that contain tea are being counted, and they have a cardinality of 3. In both (7b) and (8b), the quantizing noun bears either overt genititve (GEN) or no overt case marker; the only available interpretation is one in terms of volume or weight: the volume of tea as measured in two {pots/kilo-units}. In other words, for the IND interpretation to be felicitous, the quantizing noun must always be COMIT-marked, whereas the MEAS-interpretation arises when the quantizing noun is GEN/Ø-marked.

The correlation between interpretation and case-marking can be corroborated by the semantic selectional (i.e. s-selection) properties of some verbal predicates. For instance, some verbs have certain s-selectional requirements that they impose on their complements, i.e. the complement must belong to a particular semantic class (Chomsky 1965; Grimshaw 1979; Cowper 1992; Pesetsky 1995). A verb like *break* requires its complement to be an "object" (or something that has identifiable boundaries) and not a liquid or a substance: *break glass(es)* vs. **break tea*. On the contrary, other verbs like *drink* have the opposite s-selectional requirement; their complement must be a liquid: *drink tea* vs. **drink glass*.

Applied to the pseudo-partitive data in Alasha Mongolian, we then expect that verbs like *break* are only compatible with complements whose quantizing noun is comitative marked, since they bring the IND interpretation. On the contrary, verbs like *drink* are expected to be compatible only with genitive or zero-marked pseudo-partitives, given that these give rise to the MEAS interpretation. This contrast is shown in (9) and (10):

[5] Throughout the paper I ignore IPA and phonetic transcription. I use the following orthographic conventions that map onto the corresponding IPA symbols. The conventions for vowels are the following: *a* = [ɑ]; *ö* = [ø]; *ü* = [ʏ]; *u* = [o/u]; *o* = [ɔ]; *V* = [ə] or highly reduced unstressed vowels; small caps ᴠ is a placeholder for any vowel. Long vowels are represented with [:] after the vowel. The conventions for consonants are as follows: *ch* = [tʃ]; *j* = [dʒ]; *gh* = [ɢ]; *sh* = [ʃ]; *v* = [ʊ]; *x* = [x/χ/h]; *ng* = [ŋ]; *w* = [w].

(9) a. BatVr gorovV-n devir-tei tsaV xaghalla:
Batar three-ATTR pot-COMIT tea break.PST
'Batar broke three (individual) pots of tea'

b. * BatVr gorovV-n { devir/ devr-in} tsaV xaghalla:
Batar three-ATTR pot pot-GEN tea break.PST
'Batar broke three pots (worth) of tea'

(10) a. * BatVr gorovV-n devir-tei tsaV ob-sVn
Batar three-ATTR pot-COMIT tea drink-PST.PERF
'Batar drank three (individual) pots of tea'

b. BatVr gorovV-n { devir/ devr-in} tsaV ob-sVn
Batar three-ATTR pot pot-GEN tea drink-PST.PERF
'Batar broke three (individual) pots of tea'

As expected, comitative-marked pseudo-partitives inducing the IND interpretation are compatible with *xaghalla:* 'broke' as in (9a) but not with *obsVn* 'drank' as in (10a). The opposite pattern is observed for genitive and zero-marked pseudo-partitives: they are not acceptable with *xaghalla:* but they are with *obsVn*, as illustrated in (9b) and (10b) respectively. We can then safely conclude that every time the quantizing noun is marked comitative, the only possible interpretation is the individuating one; but, when the case marking on the quantizing noun is either genitive or zero, the only possible interpretation is the measuring one.

Given the data presented in (7) through (10), Alasha Mongolian provides an interesting case-test to the syntactic ambiguity hypothesis put forth by Landman (2004) and Rothstein (2009, 2017) among others, especially if we consider that differences in case marking might be the result of different underlying syntactic structures. If the Landman-Rothstein hypothesis is on the right track, we would expect (7a) and (8a) to have the cascading structure represented in (5). On the contrary, (7b) and (8b) should map onto a syntactic structure along the lines of (6).

The goal of the paper is to test this hypothesis from a syntactic point of view. In doing so, I show that the Landman-Rothstein hypothesis in Landman (2004) and Rothstein (2009, 2017) is not supported by the data. In fact, I argue that the underlying syntactic structures of pseudo-partitives in Alasha Mongolian are identical, as independently argued by Brasoveanu (2009), Matushansky and Zwarts (2016), Ruys (2017) and Matushansky et al. (2017), and the differences are more nuanced: the substance noun is always the head of the pseudo-partitive, and the numeral and the quantizing noun always form a constituent which is introduced by a null functional head that I call UNIT (Svenonius 2008; Ott 2011) in the extended projection of the substance noun. This head is similar to Schwarzschild's (2006) Mon(onotonicity) head. I propose that the difference in case marking can be explained if (i) genitive is the unmarked case assigned to nominals as a result of an uninterpretable case feature that remains unmatched and therefore unvalued, in the sense of Bittner and Hale (1996) and Kornflit and Preminger (2015), and (ii) comitative is assigned locally under c-command.

Besides, within the MP itself, I argue that there must be an additional *n* which is in charge of the object-to-{container/content} shifts in pseudo-partitives (along the lines of Matushansky and Zwarts 2016). The unified syntactic structure I propose

for Mongolian is potentially no different from the underlying structure of pseudo-partitives in other languages such as English, Dutch, Hebrew or Russian as argued for by Matushansky and Zwarts (2016), Ruys (2017) and Matushansky et al. (2017), modulo head-directionality. Although I do not attempt to provide a compositional semantics for the constructions in the paper, the analysis has consequences for the compositional semantics of pseudo-partitives.

The paper is structured as follows: §2 provides some background to Alasha Mongolian, both in terms of ethnography and also in terms of linguistic properties. In this section, I discuss the word order inside of NPs and the essentials of number marking in the language. §3 focuses on diagnosing the constituency of the pseudo-partitive and various word order facts. §4 spells-out the analysis, and §5 discusses some of broader implications of the analysis. §6 concludes the paper.

2 Some background essentials

Alashan Mongolian is a variety of Mongolian spoken in the Alxa League region located in west inner Mongolia.[6] The total number of speakers is unknown as there is no reference to this information in any of the modern Mongolian grammars I have consulted. The only source that reports an estimate is wikipedia, which indicates that the number of Alasha Mongolian speakers is roughly 40,000.[7]

Like other languages in the Altaic family (Turkish, Sakha, Buriat a.o.), Alasha Mongolian is head final: the canonical order is SOV (11a), it has postpositions (11b) and adjectives precede the noun they modify (11c). Moreover, it has a rich case system whose exponents are spelled out in the noun. Among the relevant cases, Alasha Mongolian distinguishes ACC(usative), DAT(itve), GEN(itve), INSTR(umental) ABL(ative) and COMIT(ative). Except for certain pronouns, nominative is covert (see also Gong 2022, for the same observation in other Mongolian varieties).

(11) a. bi BatVr xar-sVn
I Batar see-PST.PERF
'I saw Batar'

b. Batr-in tuxai
Batar-GEN about
'about Batar'

c. tam xu (* tam)
big boy big
'big boy'

Concentrating on the nominal domain, Alasha Mongolian lacks definite articles but has a demonstrative system. Demonstratives and possessors, which cannot cooccur, precede numerals, adjectives and complements of the noun. Case and number marking, if overtly expressed, are only spelled-out on the head noun. Prenominal modifiers such as numerals and gradable non-classificatory adjectives bear an attributive morpheme '-*n*' (Toquero-Pérez 2023).[8] The basic order of the Alasha Mongolian DP is schematized in (12) with an example:

[6] The data collection took place during the spring of 2022 as part of a field methods class in Los Angeles, California. In addition to the general class (20 1.5h sessions), there were a total of 8 1h individual sessions. The data come from one speaker.

[7] https://en.wikipedia.org/wiki/Alasha_dialect.

[8] If the modifier does not end in a vowel, the attributive morpheme is covert. For example, this is shown in (11c) for the adjective *tam*: 'big'.

(12) DEM/ POSS > # > AP > COMP > N
{tir/ Batr-in} ghrovV-n unte-n xol-ni tuxai nom(-o:d-ig)
that/ Batar-GEN three-ATTR expensive-ATTR food-GEN about book-PL-ACC
'{those/ Batar's} three expensive books about food'

Before probing the internal structure of the pseudo-partitive, a few notes are in order with respect to number marking and numeral and adjectival modification in the language, as reported in Toquero-Pérez (2023). As already indicated, Alasha Mongolian makes a morpho-syntactic distinction between singular and plural marking on the noun: singular is unmarked, e.g. 'Ø', and plural is marked as '*-v:d*', the vowel being subject to vowel harmony conditioned by the root. Some examples are given in (13):

(13)

a.	**SG**	**PL**	b.	**SG**	**PL**	c.	**SG**	**PL**
	nom	nom-o:d		almort	almort-o:d		xü	xüch-ü:d
	book	book-PL		apple	apple-PL		boy	boy-PL
	'book(s)'	'books'		'apple(s)'	'apples'		'boy'	'boys'

The data in (13) show that there is a difference between unmarked inanimate nouns like *nom* 'book' and animate ones like *xü* 'boy': the former are number neutral and can make reference to singular individuals (i.e. one) or a plurality (i.e. more than one); the latter are strictly singular. This number neutrality is supported by the fact that unmarked inanimate nouns are compatible with distributive adjuncts, whereas animates ones are not as shown in (14):[9]

(14) a. BatVr nom(-ig) nig-nig-ir onsh-wa
Batar book-ACC one-one-INSTR read-PST
'Batar read {*a book/ books} one by one'

b. * bi xü(d-ig) nig-nig-ir xar-sVn
I boy-ACC one-one-INSTR see-PST.PERF
Int.:'I saw a boy one by one'

The number neutrality of inanimate nouns is blocked if the noun is modified by non-classificatory gradable adjectives such as *tam* 'big'. The noun *nom* 'book' in an example like (15) must be interpreted as a singular.[10]

(15) bi { tam/ xunde-n/ unte-n} nom onsh-Vn
I big heavy-ATTR expensive-ATTR book read-PST.PERF
SG: 'I read a {big/ heavy/ expensive} book'
#PL: 'I read {big/ heavy/ expensive} books'

Count nouns can be overtly plural-marked, as shown in (13). Alasha Mongolian plural-marked nouns, regardless of animacy, behave like English plural nouns (Krifka

[9] The aspect and tense system of Mongolian is complex and in some cases subject to syncretism (Binnick 2011; Janhunen 2012; Gong 2022). The suffix *-sVn*, in particular, can be used as a perfective aspectual marker, but also as a finite past tense ending. In non-finite contexts, it acts as a perfect participle marker. From now on, I will be indicating in the glosses the relevant meaning: PST.PERF for finite contexts and PERF.PART for the non-finite ones.

[10] For a similar observation in Turkish see Sağ (2022).

1995; Sauerland 2003; Sauerland et al. 2005; Zweig 2009, and others): they are exclusively plural in upward entailing contexts, e.g. (16), and inclusively plural in downward entailing contexts (and questions), e.g. (17):

(16) a. bi almort-o:d(-ig) xotaltin ab-sVn
I apple-PL-ACC bought get-PST.PERF
'I bought apples' (two or more)

b. bi xüch-ü:d(-ig) dilgur-t xar-sVn
I boy-PL-ACC store-DAT see-PST.PERF
'I saw boys in the store' (two or more)

(17) a. bi almort-o:d(-ig) xotaltin ab-sVn-ghue
I apple-PL-ACC bought get-PST.PERF-NEG
'I didn't buy (any) apples'

b. bi xüch-ü:d(-ig) dilgur-t xar-sVn-ghue
I boy-PL-ACC store-DAT see-PST.PERF-NEG
'I didn't see (any) boys in the store'

The sentences in (16) are true if and only if (i) the speaker bought more than one apple or (ii) saw more than one boy. On the contrary, the sentences in (17) are false if the speaker (i) bought one apple or (ii) saw one boy.

Despite the availability of an overt plural-marker, numerically modified nouns must be unmarked. In fact, the presence of a plural marker on the noun makes the Numeral > N sequence ungrammatical. This is shown in (18):

(18) a. { nigV-n/ ghorovV-n/ dulu-n} almort(*-o:d)
one-ATTR three-ATTR seven-ATTR apple-PL
'{one/ three/ seven} apples'

b. { nigV-n/ ghorovV-n/ dulu-n} xü(*ch-ü:d)
one-ATTR three-ATTR seven-ATTR boy-PL
'{one/ three/ seven} boys'

One possibility would be to say that the noun has to be number neutral to combine with numerals as argued by Bale et al. (2011), but given that animate unmarked nouns like *xü* 'boy' are strictly singular, this hypothesis is not supported. Furthermore, numerals are incompatible with overt plural morphology on the noun, which is the other possible way to create a plurality in the language. Thus, I follow Toquero-Pérez (2023) and conclude that numerals in Alasha Mongolian require the noun they modify to be both syntactically and semantically singular (Ionin and Matushansky 2006, 2018).

3 Diagnosing the structure of pseudo-partitives

Alasha Mongolian has different classes of quantizing nouns. A non-exhaustive list is given in (19) to (21), where the terminology is borrowed from Rothstein (2017).

(19) ***Container Nouns***

a. nangxo – *thermos*
b. devir – *pot*
c. ajek – *bowl*
d. longx – *bottle*
e. xertsigh – *box*

(20) ***Measure units***

a. kilogram – *kilo*
b. meter – *meter*
c. tsak – *hour*

(21) ***Counting Nouns***

a. muxligh – *grain*
b. buligh – *group*

As evidenced by the examples in (7)–(10), the (linear) word order of pseudo-partitives in the language is schematized in (22). Moreover, quantizing nouns, like ordinary sortal nouns in (13), can be pluralized. This is illustrated in (23).

(22) $\text{Numeral} > \text{N}_{\text{QUANT}} \left\{ \begin{matrix} \text{-GEN/Ø} \\ \text{-COMIT} \end{matrix} \right\} > \text{N}_{\text{SUBS}}$

(23) a. devr-u:d
pot-PL

b. kilogram-o:d
kilo-PL

c. xertsigh-o:d
box-PL

d. bulgh-u:d
group-PL

However we have seen, at the end of Sect. 2, that in the presence of a numeral the noun directly modified by the numeral must be unmarked for number (and also denote a singleton). In the pseudo-partitive construction, it is always the quantizing noun that must always be unmarked for number. This is shown in (24) for MEAS-pseudo-partitives and in (25) for IND-ones.

(24) *Number on quantizing N:* MEAS

a. bi ghorovV-n { devr-in/ devir} tsaV ob-sVn
I three-ATTR pot-GEN/ pot tea drink-PST.PERF
'I drank 3 pots (worth) of tea' (✓ unmarked)

b. * bi ghorovV-n { devr-u:d-in/ devr-u:d} tsaV ob-sVn
I three-ATTR pot-PL-GEN/ pot-PL tea drink-PST.PERF
'I drank 3 pots (worth) of tea' (*PL-marked)

(25) *Number on quantizing N:* IND

a. bi ghorovV-n devir-tei tsaV abchir-gwa
I three-ATTR pot-COMIT tea bring-PST
'I brought 3 (individual) pots of tea' (✓ unmarked)

b. * bi ghorovV-n devr-u:d-tei tsaV abchir-gwa
I three-ATTR pot-PL-COMIT tea bring-PST
'I brought 3 (individual) pots of tea' (*PL-marked)

On the contrary, the substance noun of the pseudo-partitive may be PL-marked. In fact, if countable and animate, it must be plural-marked. The relevant data are given in (26):

(26) *Number on N_{SUBS}:*

a. bi ghorovV-n xertsigh{ -in/ -Ø/ -tei} nom(-o:d) abchir-gwa
I three-ATTR box -GEN/ -Ø/ -COMIT book-PL bring-PST
'I brought 3 boxes of books' (optional PL on inanimate N)

b. bi ghorovV-n xertsigh{ ?-in/ ?-Ø/ -tei} mor-*(o:d) abchir-gwa
I three-ATTR box -GEN/ -Ø/ -COMIT cat-PL bring-PST
'I brought 3 boxes of cats' (obligatory PL on animate N)

The optionality of plural marking on inanimate substance nouns is expected if the bare noun is number neutral. Likewise, the requirement of the plural morpheme on the animate substance noun is also expected given that strict singular nouns cannot occur in pseudo-partitives (Schwarzschild 2006, e.g. *two boxes of { cats/ *cat}*).[11]

In addition to number marking, the quantizing and substance noun in the pseudo-partitive differ with respect to case marking. Depending on the interpretation, the quantizing noun receives genitive/Ø or comitative. However, the substance noun is assigned case externally depending on the syntactic position that the nominal occupies. If the pseudo-partitive nominal is some type of applied object, the substance noun can receive instrumental case as in (27a), but if it is the direct object (and marked for [+specific], von Heusinger and Kornflit 2017) it will receive accusative as in (27b).[12]

(27) a. bi xan-ig ghorovV-n xertsigh(-in) burdu:g-**ur** tijil-sVn
I goat-ACC three box-GEN corn-INSTR feed-PST.PERF
'I fed the goat with four boxes (worth) of corn'

b. BatVr dulu-n devir-tei tsaV-**gig** abchir-gwa
Batar four-ATTR pot-COM tea-ACC bring-PST
'Batar brought four (individual) pots of tea'

In (27) the case marker spelled-out on the substance noun is determined by the syntactic position of the pseudo-partitive DP: instrumental in (27a) and accusative in (27b). However, the case marker on the quantizing noun is invariant (modulo the IND/MEAS-ambiguity). A summary of the patterns found so far is given in Table 1.[13]

What we can conclude from this is that there are two independent φ- and case-domains: one determined by the substance noun and the other determined by the quantizing noun. The singularity restriction imposed by the numeral on the quantizing noun seems to suggest that the numeral and the quantizing noun are in a more local relationship than the numeral and the substance noun. This is supported by the fact

[11] One might coerce the interpretation to a mass one in case the substance noun is unmarked, just like in English. If so, the interpretation that arises is a gory one: "two boxes of cat-stuff".

[12] By applied object, I am not solely referring here to indirect objects, but to any argument which is not the complement of a purely transitive verb.

[13] The unmarkedness of number in N_{SUBS} depends on two factors: [± animacy], as shown in (26), and the count/mass distinction labeled here as [±count]. That is why N_{SUBS} in Table 1 is broken down into 3 different categories. In the case of mass nouns, we should note that 'pure' or 'canonical' mass nouns like *tsaV* 'tea' or *us* 'water' cannot be pluralized (even in packaging or sorting contexts, i.e. Bunt (1985), Bach (1986)): **tsaVg-o:d* 'tea-PL', **us-u:d* 'water-PL'. What is crucial, though, is the fact that plural marking is possible with substance nouns that are countable but impossible with quantizing nouns when there is a numeral.

Table 1 Number and Case Marking on Pseudo-Partitives

		Number marking		
		Unmarked	PL	External case marking
N_{QUANT}		✓	*	*
N_{SUBS}	[+count,+animate]	*	✓	✓
	[+count,-animate]	✓	✓	✓
	[-count]	✓	*	✓

that pure mass nouns like *tea* or *water* can never be directly modified by a numeral, even in packaging and sorting contexts, as in (28).

(28) * ghorovV-n { tsaV/ us}
three-ATTR tea/ water
Lit.:'Three {teas/ waters}'
Int.: Three $\left\{\begin{matrix}\text{types}\\\text{containers}\end{matrix}\right\}$ of $\left\{\begin{matrix}\text{tea}\\\text{water}\end{matrix}\right\}$

On the contrary, the substance noun has no number markedness requirements that depend on the numeral (i.e. the substance noun can, and in some cases must, be overtly plural marked). What is more, the fact that the substance noun receives case externally can be taken as evidence that it heads the whole nominal. This contrasts with the quantizing noun which never spells out external case (for similar observations see also Matushansky et al. 2017).[14]

In the remainder of this section, I probe the constituency and structure of the pseudo-partitive. In doing so, I (i) apply different constituency tests—including coordination, movement, constituent-*only* modification—and (ii) check for various word order facts.

3.1 Applying different constituency diagnostics

Coordination. Coordination is a fairly standard constituency test, if we operate under the assumption that only constituents can be coordinated (Phillips 2003; Carnie 2012). The goal of this test is to probe whether (i) the numeral and the quantizing noun can be coordinated or (ii) the quantizing noun and the substance noun can be coordinated.

There is a potential caveat with coordination when numerals are involved, though. As Ora Matushansky (p.c.) points out, native speakers generally struggle with coordination patterns involving a numeral and (plural) count NP. For instance in English, *4*

[14] In Sect. 4 , I show that genitive is the case generally assigned to complements of nouns (with the exception of deverbal nouns), in addition to it surfacing in NPs that are complements of most adpositions and subjects of certain non-tensed embedded clauses. There I also show that comitative is more restricted to possessive-*have* constructions and NP complements of adposition *xampt* 'with'.

boys and girls can lead to (at least) three possible interpretations as shown in (29).[15] These interpretations can be thought of as the result of different underlying structures, each of them provided in (30) for the relevant paraphrase.

(29) 4 boys and girls
  a. A plurality of 8 people total (4 boys and 4 girls).
  b. 4 boys and some plurality of girls.
  c. A plurality of 4 composed of boys and girls.

(30) a. (29a) = [$_{\&P}$ [$_{NumP}$ 4 [$_{NP}$ boys]] & [$_{NumP}$ ~~4~~ [$_{NP}$ girls]]]
  b. (29b) = [$_{\&P}$ [$_{DP}$ 4 boys] & [$_{DP}$ girls]]
  c. (29c) = [$_{NumP}$ 4 [$_{\&P}$ [$_{NP}$ boys] & [$_{NP}$ girls]]]

To obtain the interpretation in (29a), what is being coordinated is the two NPs and the numeral, which in the second conjunct is covert. We can refer to this reading as the 'numeral sum reading'. That is because, when composing the meaning of the two conjuncts and assuming that the resolution of number in coordination requires set union (Link 1983; Krifka 1990), the numeral in each conjunct is summed: the result is a totality of 8 people, 4 of whom are boys and 4 of whom are girls. The interpretation in (29b) can be regarded as the result of coordinating a larger structure: the DP *four boys* and the bare plural DP *girls*. We can refer to this interpretation as the 'numeral + indefinte plural' reading. The third interpretation can result from coordinating the two NPs, e.g. *boys* and *girls*, to the exclusion of the numeral, which takes scope over the coordinated constituent. There is a crucial and welcome difference between the structure in (30c) and the one in (30a): compositionally, in (30c), set union applies to the plural NPs first creating a plurality of boys and girls, and then the numeral restricts the cardinality of that plurality to four. We can refer to this interpretation as 'overall sum reading'.

In Alasha Mongolian, coordination of numeral-noun combinations is no different than it is in English. The three interpretations available for English in (29) are also possible in Alasha Mongolian. We must bear in mind, however, the animacy distinction that the language makes: an inanimate unmarked noun in the second conjunct may be number neutral, whereas an animate one cannot; it has to be strictly singular. The relevant coordination patterns are shown in (31) and (32) for inanimates and animates respectively:

(31) duruvV-n nom bolin mashin
  four-ATTR book and car
  a. A plurality of 8 things (4 books and 4 cars)
    [$_{\&P}$ [$_{NumP}$ 4 [$_{NP}$ book]] & [$_{NumP}$ ~~4~~ [$_{NP}$ car]]]
  b. 4 books and some cars
    [$_{\&P}$ [$_{DP}$ 4 book] & [$_{DP}$ car]]

[15] The same observation occurs with higher cardinals like *1,000*: *a 1,000 boys and girls*. In the case of the third interpretation, it need not be the case that the number of boys is 500 and the number of girls is also 500; any combination will do, as long as there is a total of 1,000. The same applies to (29c).

c. A plurality of 4 things composed of books and cars

[$_{\text{NumP}}$ 4 [$_{\&P}$ [$_{\text{NP}}$ book] & [$_{\text{NP}}$ car]]]

(32) duruvV-n xü bolin mor
four-ATTR boy and cat

a. A plurality of 8 animate beings (4 boys and 4 cats)

[$_{\&P}$ [$_{\text{NumP}}$ 4 [$_{\text{NP}}$ boy]] & [$_{\text{NumP}}$ 4 [$_{\text{NP}}$ cat]]]

b. 4 boys and a single cat

[$_{\&P}$ [$_{\text{DP}}$ 4 boy] & [$_{\text{DP}}$ cat]]

c. A plurality of 4 animate beings composed of boys and cats.

[$_{\text{NumP}}$ 4 [$_{\&P}$ [$_{\text{NP}}$ boy] & [$_{\text{NP}}$ cat]]]

These baseline cases show that coordination of numeral-noun combinations are possible and associated with the interpretation resulting from the sum of the two numerals, as in (31a) and (32a). In addition, they show that coordination of NPs excluding the numeral is allowed, so long as the interpretation is one where the numeral restricts the cardinality of the plurality previously formed by coordinating the NPs, as in (31c) and (32c). These coordination patterns make interesting predictions about the constituency of the pseudo-partitive in Alasha Mongolian.

If the numeral and the quantizing noun belong to the same domain to the exclusion of the substance noun, they should behave as a syntactic constituent and may be coordinated. Furthermore, the ability to coordinate the sequence [Numeral N_{QUANT}] will give rise to the 'numeral sum reading'. On the contrary, if the quantizing noun and the substance noun form a constituent and can be coordinated, we expect the 'overall sum reading' instead. This is because the numeral is excluded from the coordinated constituent and takes scope over it, restricting the cardinality of the plurality formed by the composition of the two conjuncts. These patterns should be observed regardless of case-marking on the quantizing noun. The predictions are summarized in (33):

(33) a. If coordination of [[Numeral N_{QUANT}] & [Numeral N_{QUANT}]] is grammatical, only the 'numeral sum reading' will be available.

b. If coordination of [[N_{QUANT} N_{SUBS}] & [N_{QUANT} N_{SUBS}]] is grammatical, only the 'overall sum reading' will be available.

The relevant data are given in (34) and (35) for MEAS and IND pseudo-partitives respectively. The coordinated elements are in bold. For ease of reference, I provide the translation first with the intended bracketing, and then below it I give the intended idiomatic interpretation.[16]

[16] I am omitting the MEAS-interpretation where the quantizing noun is unmarked for case for reasons of space. I have found no context in which overt genitive is allowed but 'Ø' is not, and viceversa. Their distribution is the same.

(34) *Coordination*: GEN-*marked pseudo-partitive*

a. BatVr **duruvV-n devr-in tsaV** bolin **xoir ajeg-in us** ob-sVn
Batar four-ATTR pot-GEN tea and two bowl-GEN water drink-PST.PERF
'Batar drank [4 pots of tea] and [2 bowls of water]'
Int.: 'Batar drank 6 things-worth of liquid: 4 pots-worth of tea and two bowls-worth of water'

b. BatVr **duruvV-n devr-in** bolin **xoir ajeg-in** tsaV ob-sVn
Batar four-ATTR pot-GEN and two bowl-GEN tea drink-PST.PERF
'Batar drank [4 pots] and [2 bowls] of tea'
Int.: 'Batar drank 6 things-worth of tea: 4 pots-worth and 2 bowls-worth.'

c. * BatVr duruvV-n **devr-in tsaV** bolin **ajeg-in us** ob-sVn
Batar four-ATTR pot-GEN tea and bowl-GEN water drink-PST.PERF
'Batar drank 4 [pots of tea] and [bowls of water]'
Int.:'Batar drank a total of 4 things-worth of liquid, some of which were pots-worth of tea and some of which were bowls-worth of water'

(35) *Coordination*: COM-*marked pseudo-partitive*

a. BatVr **duruvV-n devir-tei tsaV** bolin **xoir ajek-tei us** abchir-gwa
Batar four-ATTR pot-COMIT tea and two bowl-COMIT water bring-PST
'Batar brought [4 pots of tea] and [2 bowls of water]'
Int.: 'Batar brought 6 individual containers: 4 pots of tea and 2 bowls of water.'

b. BatVr **duruvV-n devir-tei** bolin **xoir ajek-tei** tsaV abchir-gwa
Batar four-ATTR pot-COMIT and two bowl-COMIT tea bring-PST
'Batar brought [4 pots] and [2 bowls] of tea'
Int.: 'Batar brought 6 individual containers of tea: 4 were pots and 2 were bowls.'

c. * BatVr duruvV-n **devir-tei tsaV** bolin **ajek-tei us** abchir-gwa
Batar four-ATTR pot-COMIT tea and bowl-COMIT water bring-PST
'Batar brought 4 [pots of tea] and [bowls of water]'
Int.:'Batar brought a total of 4 individual containers, some of which were pots containing tea and some of which were bowls containing water'

The examples in (34a) and (35a) indicate that it is possible to coordinate the pseudo-partitive as a whole, i.e. [Numeral N_{QUANT} N_{SUBS}], suggesting that the two potentially different domains are part of a larger nominal. The sentences in (34b) and (35b) show that it is also possible to coordinate the numeral and the quantizing noun to the exclusion of the substance noun. What is more, the interpretation is as predicted in (33a). This reinforces the hypothesis that the numeral and the quantizing noun are actually a constituent. The examples in (34c) and (35c) are slightly more involved: when attempting to coordinate the two nouns to the exclusion of the numeral as in (34c) and (35c), ungrammaticality obtains and the intended 'overall sum reading' is

not available. Thus, a bracketing like the following, where the numeral takes scope over the coordinated constituent, is ruled out: [4 [[N_{QUANT} N_{SUBS}] & [N_{QUANT} N_{SUBS}]]].[17]

The constituency data from coordination, thus, support the hypothesis that the numeral and the quantizing noun are syntactic constituents regardless of the IND/MEAS-ambiguity. It also provides promising evidence that the quantizing and the substance nouns do not form a single constituent, and thereofre belong to different domains within the larger nominal. As with any constituency test, though, failing to pass the test does not entail non-constituency. Thus, we must find additional evidence that supports this hypothesis.

Right dislocation. Another classic phrasal constituency diagnostic is movement. It is typically agreed upon that for an element to undergo displacement that element must be a constituent (Chomsky 1965, 1973, 1986, 1995, *et seq.*). Thus, if the numeral and the quantizing noun form a constituent, they may be able to move as a unit. As before, the data in (36) shows this is correct:

(36) *Right dislocation*

a. BatVr [tsaVgh-(ig)] abchir-gwa, {[duruvV-n devir-tei]/ [duruvV-n devr-in]}
Batar tea-ACC bring-PST four-ATTR pot-COMIT/ four-ATTR pot-GEN
'Four pots, Batar brought of tea'

b. * BatVr [duruvV-n] abchir-gwa, {[devir-tei tsaVgh-(ig)]/ [devr-in tsaVgh-(ig)]}
Batar four-ATTR bring-PST pot-COMIT tea-ACC/ pot-GEN tea-ACC
'Pots of tea, Batar brought four'

c. ? BatVr {[duruvV-n devir-tei]/ [duruvV-n devr-in]} abchir-gwa [tsaVgh-ig]
Batar four-ATTR pot-COMIT/ four-ATTR pot-GEN bring-PST tea-ACC
'Of tea, Batar brought four pots'

While the numeral and the quantizing noun can be displaced in (36a), the quantizing noun and the substance noun cannot be displaced stranding the numeral as in (36b).

[17] A pause is generally needed after the numeral in (34c) and (35c) to disambiguate that the numeral is not part of the coordinated constituent. If there is no pause, the numeral is taken to be directly modifying the adjacent noun in which case the sentences are acceptable but only under the 'numeral + indefinite plural reading':

(ii) a. (34c) = 'Batar drank four pots-worth of tea and some bowls-worth of water'
b. (35c) = 'Batar brought four individual pots of tea and some bowls of water'

This observation does not undermine the hypothesis that numerals form a constituent with the quantizing noun or supports the hypothesis that the two nouns form a constituent to the exclusion of the numeral. That is because what is being coordinated to obtain this reading, as illustrated with the baseline cases in (31b) and (32b), is two full DPs; only the DP in the first conjunct has a numeral while the DP in the second one is bare.

It is not unnaceptable for the substance noun to undergo movement on its own as illustrated by (36c).

It is important to rule out the possibility that the ungrammaticality of cases like (36b) may be due to stranding a numeral, rather than to the rightward movement of a non-constituent.[18] We can demonstrate that this is not the case by showing that NP extraction stranding the numeral is acceptable in the language. As illustrated in (37), an NP like *nom* can appear dislocated while the numeral stays in situ inside the DP.

(37) a. BatVr [duruvV-n nom] dilgur-t ab-sVn
Batar four-ATTR book store-DAT get-PST.PERF
'Batar bought four books at the store'

b. BatVr [duruvV-n t_1] dilgur-t ab-sVn [nom]$_1$
Batar four-ATTR store-DAT get-PST.PERF book

Furthermore, the data in (36) involve movement rather than base-generation on the right as indicated by extraction out of complex NPs. The subject of the embedded clause in Alasha Mongolian may be overtly marked genitive. Complex NPs disallow constituents to move out of them as the example in (38) shows (see also Lee 2023):

(38) a. Erdin [Batr(-in) nom-ig on-ix-sVn] sanl-ig
Erdin Batar-GEN book-ACC read-INF-PERF.PART suggestion-ACC
jushuu-sVn
agree-PST.PERF
'Erdin agreed with the suggestion that Batar read the book'

b. * Erdin [Batr(-in) t_1 on-ix-sVn] sanl-ig jushuu-sVn, [
Erdin Batar-GEN read-INF-PERF.PART suggestion-ACC agree-PST.PERF
nom-ig]$_1$
book-ACC
'The book, Erdin agreed with the suggestion that Batar read'

In (38b), extraction of the accusative-marked object results in ungrammaticality. If we embed the pseudo-partitive inside a complex NP and attempt to extract a part out of it, the same result obtains. This is illustrated in (39) for MEAS-pseudo-partitives, although the pattern with IND-ones is identical.

(39) *Right dislocation shows island sensitivity*

a. Erdin [Batr(-in) duruvV-n devr-in tsaV(gh-ig) ob-ix-sVn]
Erdin Batar-GEN four-ATTR pot-GEN tea-ACC drink-INF-PERF.PART
sanl-ig jushuu-sVn
suggestion-ACC agree-PST.PERF
'Erdin agreed with the suggestion that Batar drank four pots (worth) of tea'

b. * Erdin [Batr(-in) t_1 tsaV(gh-ig) ob-ix-sVn] sanl-ig
Erdin Batar-GEN tea-ACC drink-INF-PERF.PART suggestion-ACC
jushuu-sVn, [duruvV-n devr-in]$_1$
agree-PST.PERF four-ATTR pot-GEN

[18] I would like to thank an anonymous reviewer for this observation.

Once again, the data support the hypothesis that the numeral and the quantizing noun must form a constituent regardless of the individuating or measuring interpretation.

Modification by *only*. In Alasha Mongolian, there are two focus particles meaning *only*: the adverbial *dzuxun* and the suffix *-l* (Lee 2023). The standalone adverbial *dzuxun* must precede the phrase it modifies. That is, when modifying DPs it must occur in a pre-DP position. While it is possible for *dzuxun* to precede, and thus modify, the numeral and the quantizing noun, it cannot be followed by the quantizing noun and the substance noun. The paradigm for MEAS is given in (40) and the one for IND is given in (41).

(40) *"dzuxun" and* MEAS*-pseudo partitives*

a. BatVr dzuxun duruvV-n devr-in tsaV(gh-ig) ob-sVn
Batar only four-ATTR pot-GEN tea-ACC drank-PST.PERF
I: 'It is only 4 pots that Batar drank (worth) of tea (as opposed to 5 pots)'
II: 'It is only 4 pots (worth) of tea that Batar drank (as opposed to 4 pots of tea and something else)'

b. * BatVr duruvV-n dzuxun devr-in tsaV(gh-ig) ob-sVn
Batar four-ATTR only pot-GEN tea-ACC drank-PST.PERF
Lit.: 'Batar drank 4 only pots of tea'
Int.: 'It was only pots (worth) of tea (as opposed to bowls of water) that Batar drank and their number was 4'

(41) *"dzuxun" and* IND*-pseudo partitives*

a. BatVr dzuxun duruvV-n devir-tei tsaV(gh-ig) abchir-gwa
Batar only four-ATTR pot-COMIT tea-ACC bring-PST
I: 'It is only 4 (individual) pots that Batar brought of tea (as opposed to 5 individual pots)'
II: 'It is only 4 (individual) pots of tea that Batar brought (as opposed to 4 pots of tea and something else)'

b. * BatVr duruvV-n dzuxun devir-tei tsaV(gh-ig) abchir-gwa
Batar four-ATTR only pot-COMT tea-ACC bring-PST
Lit.: 'Batar drank 4 only pots of tea'
Int.: 'It was only individual pots of tea (as opposed to individual bowls of water) that Batar brought and their number was 4'

As the *b*-examples indicate, *dzuxun* cannot modify the sequence [N_{QUANT} N_{SUBS}]. However, when it occurs before the numeral, as in the *a*-examples, the sentences are ambiguous: *dzuxun* can modify just the numeral and quantizing noun or the whole pseudo-partitive DP. We can take this interpretive ambiguity to be the result of a structural difference depending on the pre-DP position of *dzuxun*. In particular, it can attach to two places: (i) to the edge of the nominal containing the quantizing noun and the numeral, in which case the interpretations in (40a-I) and (41a-I) are obtained; and (ii) to the edge of the whole nominal, in which case the interpretations in (40a-II) and (41a-II) are possible. Schematically the two different structures would look as in (42):

(42) a. [$_{DP}$ [$_{DP}$ *duxun* [4 pot]] tea] ⇐ only 4 pots as opposed to 5 pots
b. [$_{XP}$ *dzuxun* [$_{DP}$ [$_{DP}$ 4 pot] tea]] ⇐ only 4 pots of tea as opposed to something else

One might wonder whether the position of *dzuxun* is really as in (42a), directly modifying the DP formed by the numeral and quantizing noun, or whether it is direcly modifying the numeral. There are good reasons to side with the former and not the latter. First, cross-linguistically, as argued by Ionin and Matushansky (2018, ch. 9), modifiers of numerals including superlative phrases like *at least/at most* and adverbials such as *approximately* never form a constituent with the numeral. They are AdvPs that function as DP-internal adjuncts. We can consider *only/dzuxun* to be no different.

Second, the affixal focus particle *-l* also meaning 'only' must attach to the head of the phrase that is being focused. This is shown in the example in (43) taken from Lee (2023):

(43) { Dzuxun bi/ bi-l} BatVr-t nom og-sVn
only ISG ISG-only Batar-DAT book give-PST.PERF
'Only I gave a book to Batar'

If *-l* attaches to the head of the phrase that is being focused and that element is the quantizing noun modified by the numeral, then we expect that *-l* surfaces as an affix to the noun. If instead what is being focused is the numeral, we expect the suffix to be spelled out on the numeral itself. As the data in (44) and (45) show, the latter option is ungrammatical.[19]

(44) a. BatVr duruvV-n devr-in-**Vl** tsaV(gh-ig) ob-sVn
Batar four-ATTR pot-GEN-only tea-ACC drank-PST.PERF
'It is only 4 pots that Batar drank (worth) of tea (as opposed to 5 pots)'

b. * BatVr duruvV-n-**Vl** devr-in tsaV(gh-ig) ob-sVn
Batar four-ATTR-only pot-GEN-only tea-ACC drank-PST.PERF
Int.:'It is only 4 pots that Batar drank (worth) of tea (as opposed to 5 pots)'

(45) a. BatVr duruvV-n devir-tei-**l** tsaV(gh-ig) abchir-gwa
Batar four-ATTR pot-COMIT-only tea-ACC bring-PST
'It is only 4 (individual) pots that Batar brought of tea (as opposed to 5 individual pots)'

b. * BatVr duruvV-n-**Vl** devir-tei tsaV(gh-ig) abchir-gwa
Batar four-ATTR-only pot-COMIT tea-ACC bring-PST
Int.: 'It is only 4 (individual) pots that Batar brought of tea (as opposed to 5 individual pots)'

In addition to the distribution in (44) and (45), affixal *only* can attach to the substance noun. In that case, the interpretation is as in (42b). The relevant examples for MEAS and IND pseudo-partitives are given in (46).

[19] When the noun ends in a consonant, an unstressed vowel surfaces between the final consonant and the *-l* suffix.

Table 2 Summary of Constituency Diagnostics

	Coordination	Movement	Only
MP{-GEN/-Ø}	✓	✓	✓
N{-GEN/-Ø} N_{SUBS}	*	*	*
MP-COMIT	✓	✓	✓
N-COMIT N_{SUBS}	*	*	*

(46) a. BatVr duruvV-n devr-in tsaV-**l** ob-sVn
Batar four-ATTR pot-GEN tea-only drank-PST.PERF
'It is only 4 pots-worth of tea that Batar drank of tea (as opposed to 4 pots of tea and something else)'

b. BatVr duruvV-n devir-tei tsaV-**l** abchir-gwa
Batar four-ATTR pot-COMIT tea-only bring-PST
'It is only 4 individual pots of tea that Batar brought (as opposed to 4 individual pots of tea and something else)'

The examples of affixal 'only' replicate the patterns observed for *dzuxun*. We can thus conclude that neither focus morpheme directly modifies the numeral, but the DP in which the numeral is contained.

Summary Taken together the constituency diagnostics applied in this section are summarized in Table 2. The diagnostics reveal that in terms of internal structure, the two types of pseudo-partitives pattern together: the numeral and quantizing noun (i.e. the MP), regardless of case-marking, form a constituent to the exclusion of the substance noun. This seems to go against the syntactic ambiguity hypothesis put forth by Landman (2004) and Rothstein (2009, 2017).

3.2 Word order in the pseudo-partitive

The data in subsection 3.1 help us diagnose the constituency of the pseudo-partitive, but they do not tell us much about the fine-grained structure of the NP. In order to do that, we must look at the position of the MP and nominal modifiers, arguments of nouns, and possessors.

It was shown in (12) that APs linearly preceded both nouns and their complements. Thus, APs like *xortotstei* 'fast' or *xunde* 'expensive' must appear to the left of the complement+N compound as in (47), and after a numeral as in (48).

(47) xortots-tei-n xot-ig doron-il-ix
speed-ADJ-ATTR city-ACC invade-CAUSE-NMZ
'The fast invasion of the city' AP > COMP > N

(48) a. (* unte-n) dulu-n (unte-n) ünd-ig
expensive-ATTR seven-ATTR expensive egg-ACC
'The 7 expensive eggs' # > AP > N | *AP > # > N

b. (* unte-n dulu-n (unte-n xol-ni dzork
expensive-ATTR seven-ATTR expensive-ATTR food-GEN picture
'7 expensive pictures of food' # > AP > COMP > N
'7 pictures of expensive food'

While the position of the numeral and the adjective is invariant, the complement of the noun may optionally appear to the left of the numeral. An example is given in (49): the GEN-marked complement *xol-ni* 'food-GEN' precedes everything else in the noun phrase. As far as I can tell, there is no informational-structural difference between (48b) and (49)

(49) xol-ni dulu-n unte-n dzork
food-GEN seven-ATTR expensive-ATTR picture
'7 expensive pictures of food' COMP > # > AP > N

With respect to possessors, we also saw in (12) that possessors occupied the leftmost position in the NP. When there are a possessor and a complement of a noun, the canonical order is POSS > (# > AP >) COMP > N as in (50a). The complement of the noun may still surface higher than the possessor as in (50b); but if the possessor binds a recriprocal anaphor inside the noun's complement, the complement cannot precede the possessor, e.g. (51):

(50) a. xüch-üd-in dulu-n unte-n xol-ni dzork
child-PL-GEN seven-ATTR expensive-ATTR food-GEN picture

POSS > # > AP > COMP > N

b. [xol-ni]$_1$ xüch-üd-in dulu-n unte-n t_1 dzork
food-GEN child-PL-GEN seven-ATTR expensive-ATTR picture
'the children's seven expensive pictures of food'
COMP > POSS > # > AP > N

(51) a. xüch-üd-in$_i$ dulu-n unte-n bei-bei-dix-in$_i$ dzork
child-PL-GEN seven-ATTR expensive-ATTR body-body-POSS-GEN picture
'the children's seven expensive pictures of each other'

b. * [bei-bei-dix-in$_i$]$_1$ xüch-üd-in$_i$ dulu-n unte-n t_1 dzork
body-body-POSS-GEN child-PL-GEN seven-ATTR expensive-ATTR picture

The facts in (50) and (51) are showing two separate things: (i) complements, or arguments, of nouns may undergo movement to the leftmost position in the NP across possessors; (ii) movement of the complement of the noun across a possessor that binds it results in ungrammaticality.[20]

[20] It is orthogonal to the goal of the paper whether this movement is A or Ā. If we reverse the positions of reciprocal and R-expression in (51), ungrammaticality still obtains after the movement as in (iii). This shows that the movement must obligatorily reconstruct.

(iii) a. * bei-bei-dix-in$_i$ dulu-n unte-n xüch-üd-in$_i$ dzork
body-body-POSS-GEN seven-ATTR expensive-ATTR child-PL-GEN picture
'Each other's seven expensive pictures of the children'

That said, there are two possible word orders inside the NP summarized in (52), with any deviation being ungrammatical. Given these sets of facts, the general observation seems to be that complements or arguments of the noun are generated low, below gradable adjectives, and may optionally (Ā-)move to a higher position disrupting the canonical AP > Comp > N order and above possessors.

(52) Attested word orders within the DP

a. Poss > # > AP > Comp > N (base order)

b. Comp > Poss > # > AP > N (derived by movement)

We can assume, based on these ordering patterns, that possessors are (externally) merged in the highest position within the DP and that any phrasal constituent that appears to the left of the possessor must have been internally merged above possessors. We can use these sets of facts to probe the position of the MP in pseudo-partitives relative to these NP-internal elements.

With respect to the MP constituent composed of the quantizing noun and the numeral, it must appear to the left of APs as (53).

(53) a. dulu-n xerstigh{ -in/ -Ø/ -tei} unte-n dzork-o:d
seven-ATTR box -GEN/ -Ø/ -COMIT expensive-ATTR picture-PL
'7 boxes of expensive pictures' MP > AP > N

b. * unte-n dulu-n xerstigh{ -in/ -Ø/ -tei} dzork-o:d
expensive-ATTR seven-ATTR box -GEN/ -Ø/ -COMIT picture-PL
'7 boxes of expensive pictures' *AP > MP > N

If the substance noun takes a complement, the base order is in (54a); but as we have already seen, the noun's complement may optionally move to the left. If that occurs, it will appear to the left of the MP. This is seen in (54b):

(54) a. [dulu-n xerstigh{ -in/ -Ø/ -tei}] unte-n [xol-ni]
seven-ATTR box -GEN/ -Ø/ -COMIT expensive-ATTR food-GEN
dzork-o:d MP > AP > Comp > N
picture-PL

b. [xol-ni] [dulu-n xerstigh{ -in/ -Ø/ -tei}] unte-n t_1
food-GEN seven-ATTR box -GEN/ -Ø/ -COMIT expensive-ATTR
dzork-o:d
picture-PL
'7 boxes of expensive pictures of food' Comp > MP > AP > N

Footnote 20 continued

b. * [xüch-üd-in$_i$]$_1$ bei-bei-dix-in$_i$ dulu-n unte-n t_1 dzork
child-PL-GEN body-body-POSS-GEN seven-ATTR expensive-ATTR picture
Int. 'of the children, each other's seven expensive pictures'

A possible explanation is weak cross-over (Chomsky 1977; May 1977; Barss 1986, a.o.). However, as Daiko Takahashi points out, we cannot rule out the possibility that the ungrammaticality of (iii) and (51b) is due to A-movement feeding a Condition A violation (Chomsky 1981). I leave this question open.

With respect to possessors, we observe that, like complements of nouns, MPs can appear to the right of possessors, but also to their left. This is shown in (55):

(55) a. Batr-in dulu-n xertstigh{ -in/ -Ø/ -tei} nom
Batar-GEN seven-ATTR box -GEN -Ø -COMIT book
✓ 'Batar's seven boxes of books'
✓ 'Seven boxes of Batar's books' Poss > MP > N

b. dulu-n xertstigh{ -in/ -Ø/ -tei} Batr-in nom
seven-ATTR box -GEN -Ø -COMIT Batar-GEN book
'Batar's seven boxes of books'
✓ 'Seven boxes of Batar's books' MP > Poss > N

c. xüch-üd-in dulu-n xertstigh{ -in/ -Ø/ -tei} Batr-in nom
boy-PL-GEN seven-ATTR box -GEN -Ø -COMIT Batar-GEN book
'The children's seven boxes of Batar's books'

(55a) could in principle be ambiguous between two interpretations: one where the possessum is the seven boxes, and an other in which the possessum is only the books. We can hypothesize that the former interpretation arises as a result of the possessor being contained in the MP, whereas the latter is the result of the possessor being MP-external, taking scope over the whole DP. In fact, this can be disambiguated in two different ways: (i) when the MP appears displaced to the left of the possessor, as in (55b), only the MP-external possessive reading is possible; (ii) also, the MP can have its own possessor. For example, *Batrin* 'Batar-GEN' in (55c) is the possesor of the book while *xüchüdin* 'child-PL-GEN' possesses the 7 boxes.[21] .

In this section, I have shown what the possible DP-internal word order patterns are. We have seen that MPs precede everything but possessors, which occupy the highest position in the DP. Any other deviation from this orders that is grammatical has to be derived by movement. The possible orders are as summarized below in (56) and (57):

(56) a. MP > AP > COMP > N (base order, e.g. 54a)
b. COMP > MP > AP > N (derived order, e.g. 54b)

(57) a. POSS > MP > AP > COMP > N (base order, e.g. 55a)
b. MP > POSS > AP > COMP > N (derived order, e.g. 55b)

3.3 Summary

I have applied a series of diagnostics that probed the internal constituency of pseudo-partitive constructions in Alasha Mongolian. The results support the observation that

[21] *Batar* in (55c) is the possessor and not the noun's complement. This is evidenced by examples like (iv) where *food* occupies the complement position of the noun:

(iv) xüch-üd-in dulu-n xertstigh{ -in/ -Ø/ -tei} Batr-in xol-ni dzork
boy-PL-GEN seven-ATTR box -GEN -Ø -COMIT Batar-GEN food-GEN picture
'The children's seven boxes of Batar's pictures of food'

the numeral and the quantizing noun form a unit, which I have referred to as MP so far, regardless of the case marking on the quantizing noun. The substance noun, however, does not belong within the MP. In addition, word order facts reveal no evidence that supports the claim that MPs occupy different positions depending on whether they are GEN/Ø-marked or COMIT-marked. In fact, there are two possible word order patterns for internal MP-constituents: (i) MPs are higher than complements of nouns—if there are any—and adjectives, but lower than possessors; (ii) MPs can precede everything including possessors. In fact, this suggests that the MP and complements of nouns enter the derivation in distinct positions and have slightly different properties.

4 Analysis

4.1 Spelling out the assumptions

Before moving to the proposal, I want to outline some of the ancillary assumptions that I will be adopting. First, I assume that all syntactic operations—Agree and Merge (both internal and external)—are feature driven (Svenonius 1994; Adger 2003; Lechner 2004; Pesetsky and Torrego 2006; Heck and Müller 2007; Müller 2010, a.o.). In particular, following Heck and Müller (2007) and Müller (2010), I assume that features come into two classes depending on the operations that they trigger: structure building features responsible for Merge, and probe features that participate in Agree operations. Structure building features are represented as [•F•], and are discharged upon merger of the subcategorized element. Probe features include uninterpretable and interpretable feautres. The uninterpretable features, notated as *u*F, are probe features. Interpretable features will be noted as bivalent ±F pairs following Harbour (2011): [+F] ∼ [-F]. *u*Fs can themselves be unvalued or inherently valued (Pesetsky and Torrego 2007): [*u*F: *val*] ∼ [*u*F:_].

In addition, I assume, also following Müller (2010), that (i) the two types of features are organized into separate feature stacks and that (ii) at least the features within the structure building stack are ordered. This ordering ensures that, for example, internal arguments are merged before external arguments.

Following Chomsky (2000) and others, I will assume that there is an operation called `Agree` between a probe and a goal. We can adopt the standard definition in (58) for the operation, taken from Zeijlstra (2012, p.492):

(58) A probe α can `Agree` with a goal β iff:

a. α carries at least one unvalued and uninterpretable feature and β carries a matching interpretable feature.

b. α c-commands β.

c. β is the closest goal to α.

d. β bears an unvalued uninterpretable feature.

I further assume, as it has become standard in the literature on Agree, a two-step model of Agree that separates the matching operation (`Agree-Link`) from the valu-

ation one (Agree–Copy), (Benmamoun et al. 2009; Bhatt and Walkow 2013; Arregi and Nevins 2012; Smith 2021). This is defined in (59), adapted from Smith (2021).

(59) Two-step Agree

a. Agree–Link: a probe has *u*Fs that trigger Agree with a goal (possibly more than one). The result is a link between probe and goal.

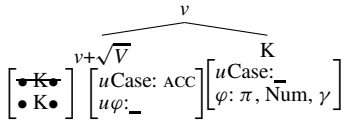
b. Agree–Copy: the values of F are copied onto the unvalued *u*F counterparts that have been previously matched by Agree–Link.

While the Agree–Link operation is obligatory, i.e. the search procedure must take place, its successful culmination, i.e. the probe finding an appropriate matching goal, is not (Preminger 2014). If Agree–Link fails, Agree–Copy will not occur. However, this does not entail that the derivation will crash upon transferring the structure to the interfaces.

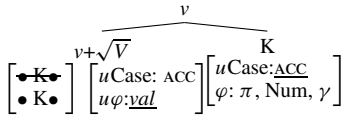
The workings of the system are illustrated in (60) for a transitive *v*. The derivation of the *v*P is given in (61), where φ is a placeholder for features including, but not limited to person (π), number (Num) or gender (γ).

(60) $v \begin{bmatrix} \bullet K \bullet \\ \bullet K \bullet \end{bmatrix} \begin{bmatrix} u\text{Case: ACC} \\ u\varphi\text{:\_} \end{bmatrix}$

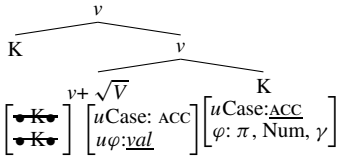
(61) a. Merge internal argument



b. AGREE(-LINK & COPY)



c. Merge external argument



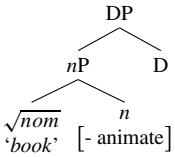
Transitive *v* has two separate feature stacks. *v* subcategorizes for two KPs, the internal and external argument. Thus, it subcategorizes for two [•K•] features. In addition, *v* has two probe features: an unvalued phi-probe feature [$u\varphi$:_] and a valued case probe feature [*u*Case:ACC]. The topmost [•K•] feature is discharged upon the merger of the internal argument (61a). The probes search their c-command domain for potential matching goals and they find the just-merged K in the complement position. Agree–Link has been successful: the result is φ-feature valuation on the probe and case assignment to the goal, as in (61b). Last but not least, the second [•K•] feautre is discharged when the external argument is merged, saturating *v*'s features, as shown in (61c).

4.2 Motivating the structure

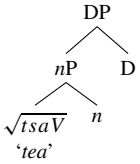
First, I assume, following Harbour (2007, 2011, 2014), Kramer (2017) and Martí (2020), that number neutral NPs, and also mass nouns (Borer 2005; Harbour 2007,

2011), lack a NumP. NumP, and other individuation-based projections, are not projected unless there is morpho-syntactic evidence to do so: overt plural morpheme, non-classificatory adjectives, and numerals. The structure for inanimate number neutral NPs and mass NPs in Alasha Mongolian is in (62). However, animate NPs always project NumP, given that they are strictly singular, as in (63). I am assuming that (i) class features, such as animacy or gender, are located on *n* following Kramer (2015, 2016) and others; and (ii) Num, when present, will bear the interpretable features [±atomic] (Harbour 2014): [+atomic] marks the NP as singular, while [-atomic] is responsible for creating pluralities.

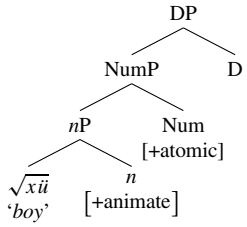
(62) a. Number neutral count NP



b. Mass NP

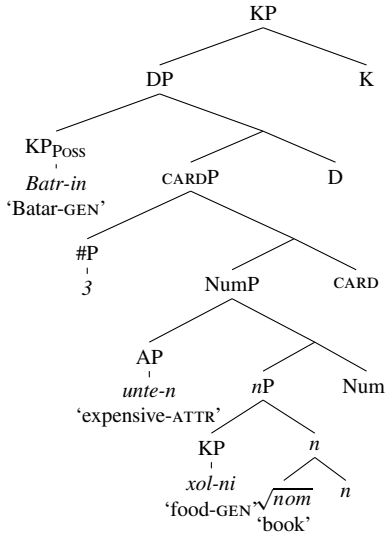


(63) singular count NP



The more articulated structure of the nominal is provided in (64). This is the structure that includes possessors, numerals, non-classificatory adjectives, and complements of nouns. Features on the relevant heads have been removed for ease of representation.

(64) *The articulated structure of Alasha Mongolian count DPs*



The root adjoins to the categorizing head *n* which labels it as a noun (Halle and Marantz 1993; Embick and Noyer 2001; Levinson 2007). If the noun takes a complement (e.g. *of/about food*), the complement will be selected by *n* following Merchant (2019). When NumP is projected, it encodes singular or plural number (Ritter 1991; Harley and Ritter 2002; Cowper 2005; Harbour 2007) and it may introduce non-classificatory gradable adjectives in its specifier. This is based on the observation that the presence of these adjectives has an effect on the number interpretation of the NP (e.g. (15)). Numerals are introduced by their own functional head (Zabbal 2005; Kayne 2005; Cinque 2010, 2023; Scontras 2013; Pancheva 2021) which I label here as CARD(inality)P following Scontras (2013). If there is a possessor, I assume that it is generated in the specifier of the D head (Abney 1987; Corver 1990).[22] The highest head in the extended projection of the noun is K, projecting a KP (Bittner and Hale 1996).

The structure in (64) accounts for the base word order in (12), repeated in (52a), and straightforwardly derives the order in (52b) via movement of the noun's complement above the possessor. The complex $n+\sqrt{nom}$ heads the whole extended projection and, thus, number morphemes and external case are spelled-out on it. K, and only K, is the locus of unvalued uninterpretable case features; thus any K will bear unvalued case features: [*u*Case:_]. In order for the nominal to receive case externally, the KP has to enter into a dependency with a head outside the nominal, e.g. *v*, T, Appl.

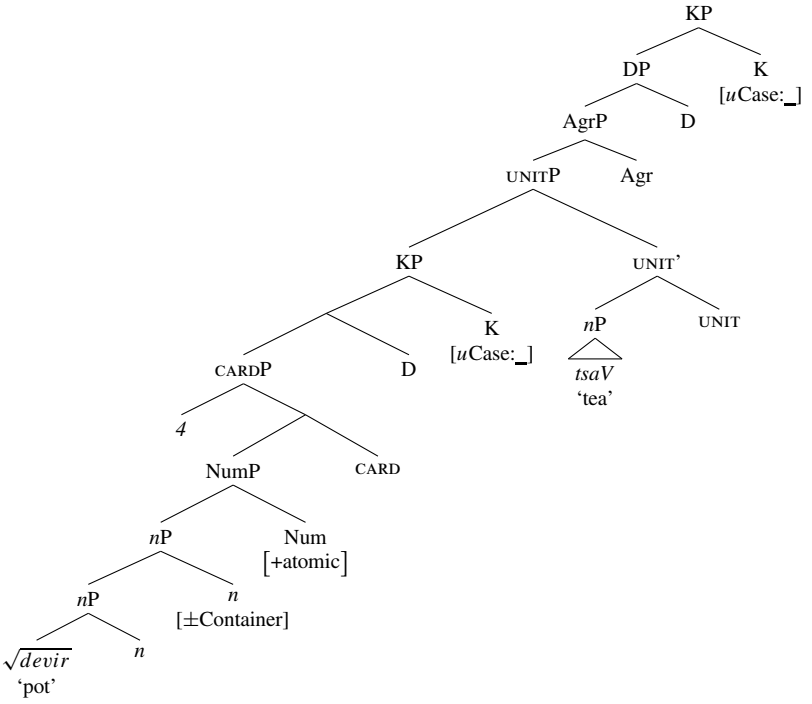
Now that the basic assumptions about the nominal spine have been laid out, we can go back to pseudo-partitives. The constituency and word order data discussed do not support the syntactic ambiguity proposed by Landman (2004), Rothstein (2009, 2017), Wilson (2018) and others. And yet, the language makes a morpho-syntactic distinction on the quantized noun: when the quantized noun shows comitative case, the interpretation is an individuating one; when the quantizing noun is genitive, the interpretation is a measuring one. What is more, in both cases, the quantizing noun is never the head of the full extended projection. Instead, its distribution is more like that of a DP-internal argument. Crucially, it cannot occupy the complement position of *n* because complements are structurally lower than the pseudo-partitive MP, e.g. (57).

I take these facts to indicate that the MP is not introduced by *n*, but a different functional head in the nominal spine that is available for both mass nouns and count ones (this rules out Num, under the assumption that Num is absent in the mass domain, and in number neutral inanimate nouns). The function of this head is to map a substance or a content to a unit that contains it. This is one of the functions displayed by classifiers (Cheng and Sybesma 1999; Borer 2005; Svenonius 2008). Thus, I propose to analyze this functional head as a null classifier that appears above *n*P. I call this head UNIT following Svenonius (2008) and Ott (2011) to distinguish it from traditional numeral or mensural classifiers. In addition, I propose that quantizing nominals include a layered *n* that is responsible for deriving objects into containers.

The syntax I propose for pseudo-partitives is represented in the structure in (65).

[22] Gong (2022) proposes that the possessor is generated in the specifier of a PossP below KP and DP. In terms of the proposal here, nothing crucial hinges on assuming that the possessor is on Spec,DP instead.

(65) *The syntax of pseudo-partitives in Alasha Mongolian*



There are three main pieces that pseudo-partitives make reference to: (i) an entity, i.e. the substance; (ii) the measure of the substance relative to a unit, i.e. the container; and (iii), the dimension along which the entity is measured. The role of UNIT is to glue (i) and (ii) by mapping the entity and the unit, and introducing a measure role. The structure and the function of UNIT are very much in line with Schwarzschild's (2006) Mon(otonicity) head. In fact, for Schwarzschild (2006) Mon takes the substance noun as complement and introduces the relevant MP in its specifier, and ensures that the dimension of measurement is extensive, i.e. it tracks the part-whole relation of the domain being measured (e.g. cardinality, volume or weight, but not speed or temperature).

The UNIT head introduces a KP in its specifier. This KP is what so far we have been referring to as MP, and will introduce the measuring unit (pots, kilos, bowls etc.). We know that the quantizing phrase has to be a full KP since it receives case and is able to host possessors, which are both compelling evidence for them being fully fleshed nominals. In addition, by looking at the structure in (65), we observe that the constituency facts are explained: the quantizing KP can be coordinated, moved and modified by *dzuxun* 'only' to the exclusion of the substance noun. Likewise, the word order facts in (56) and (57) also follow: being higher than *n*P, the quantizing KP is linearized to the left of the noun's complement; being lower than DP, it is c-commanded by possessors.[23] I assume that there is a DP-internal AgrP responsible for triggering

[23] If NumP is projected, there are two options: either UNITP is externally merged immediately above NumP or it is always externally merged immediately above *n*P but the quantizing KP moves to Spec,AgrP after

Agree-operations within the DP. This AgrP immediately dominates, and therefore subcategorizes for, UNITP.[24] The proposal will derive the individuating-measuring ambiguity from two interacting factors: the different flavors of the Agr head, and the features on the layered *n* above the nominalized root inside the quantizing KP.

Within the quantizing constituent, what sets these nominals apart from regular entities or objects is the presence of an additional head (cf. Matushansky and Zwarts 2016). I labeled this head in (65) as an *n* head which is responsible for deriving the quantizing interpretation of the noun. Container-content nouns are polysemous between a regular object interpretation and a container-like interpretation (Pelletier 1975; Allan 1980; Duek and Brasoveanu 2015, *et seq.*). Following Kiss et al. (2021), I take this polysemy to be the result of added syntactic structure to the basic noun spine. Thus, the proposed *n* head may transform a regular object like *box*, *glass* or *kilo* into a container that is instantiated by that object, whether it is concrete (like *box*) or abstract (like *kilo*). I propose to encode this in *n* as an interpretable feature [±Container]. The positive value of the feature shifts the *n*P to a container shaped-object. The negative value, by contrast, indicates that there is some container-like element, its *n*P complement, that will be filled with some substance portion. In other words, it entails the existence of a container that will serve as measuring unit; but most importantly it foregrounds its (to-be filled) contents. We can define these features in prose as in (66).[25]

(66) a. [+Container] = 'For every set of containers C, if C' is in the set, x holds of C' and there is a substance y that fills x'

b. [-Container] = 'For every set of containers C, if C' is in the set and there is an x that holds of C', there is a set of substances S such that y is in it and y fills x.'

A few words are in order with respect to this quantizing *n*. Positing this layered *n* head in the syntax might seem like a stipulation driven to facilitate semantic compositionality. However, we must note that quantizing *n* heads can have their own morphological exponent in some languages, and show the same morpho-syntactic

Footnote 23 continued
Agree has occurred. This is because the quantizing KP must be higher than non-classificatory gradable APs which are assumed to adjoin as specifiers of NumP.

[24] See Cinque (2010, 2023) for the motivation of AgrPs within DPs. For Cinque (2023), each functional head in the nominal spine is immediately dominated by its own AgrP.

[25] The two values of the interpretable feature roughly correspond to Matushansky and Zwarts' (2016) semantic functions CONT and CONT^{-}, modified below in (v) to be faithful to the proposed syntactic structure and the meanings they introduce:

(v) a. [+Container] = $[\![\text{CONT}]\!] = \lambda C'.\lambda x.\forall C \exists y[C' \in C \rightarrow C'(x) \wedge \texttt{Fill}(y, x)]$
'For every set of containers C, if C' is in the set, x holds of C' and there is a substance y that fills x'

b. [-Container] =
$[\![\text{CONT}^{-}]\!] = \lambda C'.\lambda y.\forall C \exists S \exists x[C' \in C \rightarrow C'(x) \wedge S$ is a set of substances $\wedge S(y) \wedge \texttt{Fill}(y, x)]$
'For every set of containers C, if C' is in the set and there is an x that holds of C', there is a set of substances S such that y is in it and y fills x.'

behavior as other *n*s. For instance, in English, a [-Container] *n* can be spelled-out as *-ful*, in which case it appears between the root and number morphemes. In fact, it can block irregular plural morphology triggered by the root as in (67):

(67) a. glass – glass-ful
Noun – Noun-FUL

b. glass-es – glass-ful-s – * glass-es-ful – * glass-ful-es
Noun-PL – Noun-FUL-PL – Noun-PL-FUL – Noun-FUL-PL

The fact that *-ful* may block irregular number suppletion can be taken to signal that container information may enter the syntactic derivation as a functional head between *n* and Number. In the case of Alasha Mongolian, this quantizing *n* is null.

With these pieces in our toolbox, I propose that Agr has the set of features provided in (68):

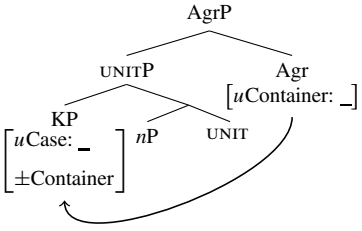
(68) Feature matrix of Agr (to be refined)
Agr [•UNIT•] [*u*Container: _]

Agr selects for UNIT and bears an unvalued probe container feature. Since this feature is unvalued, it must probe for a goal via `Agree-Link` and copy its features. On the other hand, the quantizing KP, regardless of its interpretation, has an unvalued case feature and an interpretable quantizing feature that it has inherited from *n*'s projection. This is shown in (69):

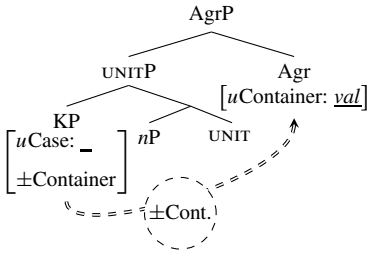
(69) Features on quantizing KP
$$\text{K}\begin{bmatrix} u\text{Case: } \_ \\ \pm\text{Container} \end{bmatrix}$$

Considering now the feature matrices for Agr and quantizing KPs, we can observe that they are able to enter an Agree dependency: Agr is the target of the agreement and requires its container feature to receive a value by copying it from an available controller. The only available goal in its c-command domain is the quantizing KP in Spec,UNITP. Thus, `Agree-Link` and subsequent COPY can apply. This is shown in (70):

(70) a. `Agree-Link(Agr, KP)`



b. `Agree-Copy(Agr, KP)`



As a result of successful `Agree-Link`, the container feature is copied onto the probe. If the container feature is set to [-] the semantic interpretation should come out as a measuring one, given the content of the container feature in (66) (also see footnote 25). If the value of the container feature is [+], by contrast, the only possible interpretation given our proposal should be an individuating one.

The dependency in (70) is not about case. In fact, case on KP will remain unvalued. This is a challenge since there is no way to distinguish how comitative gets assigned to some quantizing KPs, but genitive case is assigned to others. In the next section, I argue that there is a general difference between comitative and genitive case with respect to how they are assigned. I survey their distribution and conclude that, while comitative is lexically assigned by designated heads, genitive is unmarked. This will lead to positing a difference within the Agr heads in terms of the probe features that they bear.

4.3 Accounting for the case difference

Any nominal-internal embedded KP (e.g. complements of nouns or possessors) will receive case internally, within the matrix KP. With the exception of complements of nominalized verbs which receive accusative, as shown in (47), typically, all other nominal-internal embedded KPs bear genitive case. In fact, if we look at the environments where genitive case occurs in the language, provided in Table 3, we find that its distribution is very diverse and does not fully comprise a natural class.

As opposed to genitive, comitative is more restricted in its distribution. There are only three environments where it surfaces: complement of an adposition *xampt*,

Table 3 Distribution of Genitive Case in Alasha Mongolian

Environments	Can be null?	Examples
Complements of *n* (except nominalizations)	*	(48)
Possessors	*	(50)
Complements of adpositions	*	(12)
Subject of non-tensed embedded clauses	✓	(39)
Measure pseudo-partitive	✓	(7b) - (8b)

roughly 'with' as in (71a), possessive 'have' constructions as in (71b), and individuating pseudo-partitives. All these contexts have in common the notion of 'having' or 'possession'.

(71) a. bi tun-tei xampt talax xi-be:
I 3SG-COMIT with bread cook-PST
'I cooked the bread with him/her'

b. BatVr gijix-tei ho?
Batar hair-COMIT Q.POL?
'Does Batar have hair?'

Given the distribution of both genitive and comitative cases, I propose to analyze genitive as the unmarked case in the sense of Bittner and Hale (1996), Kornflit and Preminger (2015) (and Gong (2022) for other varieties of Mongolian): genitive arises as a result of the absence of valued case features. In other words, the unvalued case feature on the measure KP will fail to enter an `Agree-Link` dependency with a c-commanding probe and will subsequently not copy a value from such c-commanding case probe. Comitative, however, is idiosyncratically assigned via Agree.[26]

If comitatitve is assigned via Agree, whereas genititve is unmarked, this entails that the Agr head that I have proposed in (68) must come in two different versions, depending on whether it bears a case probe or not. This is shown in (72):

(72) The feature composition of Agr heads (final version)

a. Agr_1 [•UNIT•] [uCase: COMIT, uContainer _]

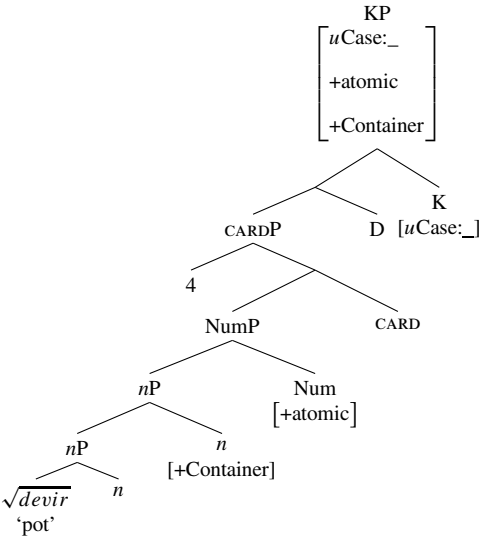
b. Agr_2 [•UNIT•] [uContainer:_]

The two heads share the structure building feature set: they both subcategorize for a [• UNIT•]. But they differ in their probe features. Agr_1 in (72a) has an uninterpretable case feature inherently specified for comitative, and an unvalued uninterpretable container feature. On the contrary, while Agr_2 in (72b) has an uninterpretable container feature which is unvalued, it lacks a case probe.

That said, we can now derive how individuating pseudo-partitives are assigned comitative while measuring ones receive genitive. First, the structure for an individuating quantizing KP is given in (73). The relevant changes from (65) include the inherent value on the interpretable quantizing feature on *n*, which is [+Container], and the percolation of features to the KP node (Lieber 1989; Anderson 1992; Grimshaw 2000; Norris 2014; Grabovac 2022):

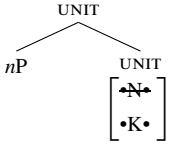
[26] We should note that being the "unmarked" case does not necessarily correlate with a null case morpheme (Levin and Preminger 2015, fn.2, 233). Alasha Mongolian supports this observation given that genitive can be phonologically overt in some contexts. In the case of comitative, it must be assigned by the head that has the relevant inherently valued case feature.

(73) The quantizing KP (individuating)

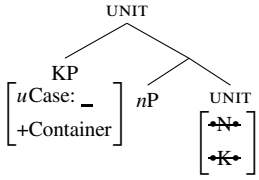


The UNIT head introducing the quantizing KP has the composition in (74), after discharging its topmost structure building feature, e.g. [•N•]. Given the order of the structure building features, the next step in the derivation is to merge the KP in (73) in its specifier.

(74) `Merge(unit, nP)`

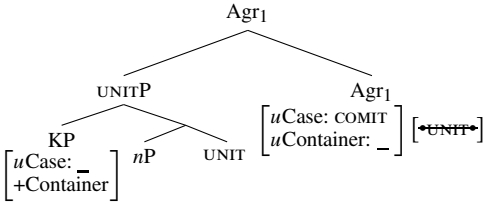


(75) `Merge(unit, KP)`

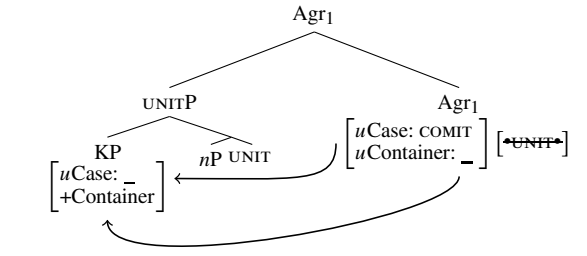


The next step in the derivation is to merge the Agr_1 head in (72a). Upon merger, its structure building feature is discharged. Then, the probe features initiate the `Agree-Link` search. The derivation is shown in (76).

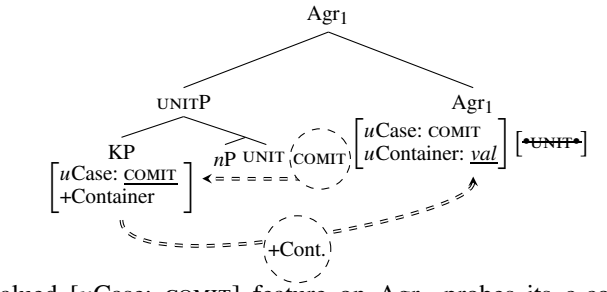
(76) a. `Merge(Agr, unitP)`



b. `Agree-Link(Agr, KP)`



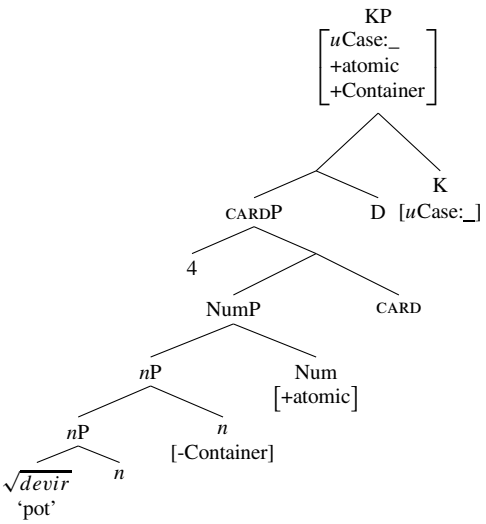
c. `Agree-Copy(Agr, KP)`



The valued [*u*Case: COMIT] feature on Agr_1 probes its c-command domain and matches the unvalued case feature on the KP. Likewise, `Agree-Link` between the [*u*Container] feature on Agr_1 and the interpretable [+Container] feature on the same KP is also successful, as illustrated in (76b). The relevant values are then copied onto the unvalued features, as in (76c): the KP receives comitative case, and Agr_1 receives a container value.

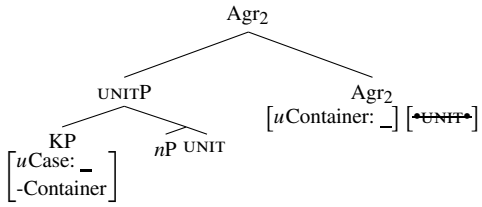
The derivation of the measuring pseudo-partitive is different. First, although the geometry of the quantizing KP is the same as the one in (73) for the individuating pseudo-partitive, the inherent value of layered *n* is set to [-Container]. This is illustrated in (77).

(77) The quantizing KP (measuring)



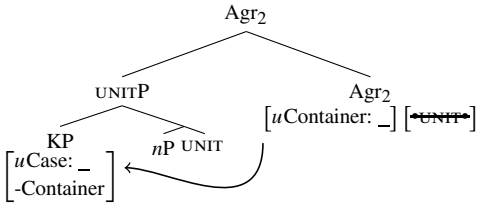
Crucially, the Agr_2 head in the extended projection of the substance noun is also different. After it is merged with the UNITP, the structure is as in (78).

(78) `Merge(Agr2, unitP)`

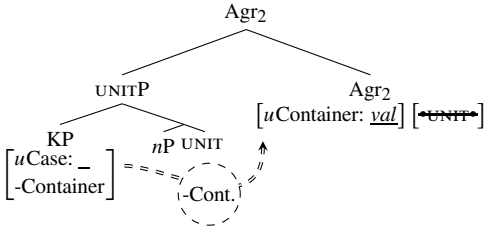


Agr_2 has only one unvalued probe feature, e.g. [*u*Container]. This feature searches its c-command domain for a potential matching goal which is the [-Container] feature on the KP. The linking dependency is successful and the goal's value is subsequently copied onto the probe. This is represented in (79b).

(79) a. `Agree-Link(Agr2, KP)`



b. `Agree-Copy(Agr2, KP)`



As illustrated in the derivation, there is only an Agree dependency between Agr_2 and KP. There is no linking or matching with respect to case. Thus, the case feature on the KP remains unvalued. Instead of leading to a crash at the point of transfer, the [*u*Case] feature on the quantizing KP receives the unmarked case value, which in the case of Alasha Mongolian is genitive: [*u*Case: GEN] ⇔ {*-in*/∅}.

The derivation of the measuring pseudo-partitive thus contains the same morpho-syntactic pieces as the individuating one, i.e. the UNIT, a quantizing KP, a substance/content noun, and Agr head; but what sets the two apart is the feature make-up of the elements involved. In particular, the Agr head responsible for the measuring pseudo-partitive lacks a case probe feature resulting in the emergence of the unmarked case on the KP; the quantizing *n* is specified as [-Container] which foregrounds the substance and entails the presence of a container that is set as the measure-unit whose value will be mapped onto a scale of volume, length, or weight, but not cardinality.

As a result, the individuating-measuring ambiguity is more intricate and nuanced than just a simple structural ambiguity.[27]

5 Broader cross-linguistic impact

The account proposed to analyze the properties of pseudo-partitives in Alasha Mongolian relies on there being one underlying syntactic structure for individuating and measuring pseudo-partitives. Any differences between them boil down to the content of the functional heads involved in the syntactic derivation feeding the semantic composition. This raises the questions of how languages differ, if they actually do, and how we can capture cross-linguistic variation.

First, the data and syntactic structure proposed do not align with the Landman-Rothstein hypothesis that individuating and measuring pseudo-partitives have an underlyingly distinct syntax. Instead, the proposed geometry is in line with Matushansky and Zwarts (2016), Ruys (2017) and Matushansky et al. (2017). After discussing data from a varied number of languages, including English, Russian, Dutch, Greek, Albanian and Hebrew, they argue that in none of these languages is there significant evidence for ambiguity and, in fact, a uniform syntax is empirically supported. Furthermore, similar findings of a uniform syntax have been reported by Hankamer and Mikkelsen (2018, 2008) for Scandinavian (with an emphasis on Danish) and Toquero-Pérez (2022a, b) for Spanish. To this pool of languages, we can now add Alasha Mongolian. There are some differences between the syntax proposed by these authors and the one advocated for here: for Matushansky and Zwarts (2016); Ruys (2017) and Matushansky et al. (2017) the structure is always as in (5); and for Hankamer and Mikkelsen (2008, 2018), Toquero-Pérez (2022a, b), the phrase containing the substance is always a sister to a DP node rather than the complement of *n*. I have argued that neither of them could be accurate for Alasha Mongolian based on the possible word orders.

However, the three analyses share the same underlying hypothesis: there is no headedness or constituency difference between individuating and measuring pseudo-partitives. In fact, we could recast the two analyses under the proposal here. For head-initial languages like those analyzed by these authors where the head of the NP is the quantizing noun, the constituent containing the substance noun is introduced as an argument of the layered quantizing *n*:

(80) $[_{\text{CARDP}}$ 4 $[_{\text{CARD'}}$ CARD $[_{\text{NumP}}$ $\text{Num}_{\text{[-atomic]}}$ $[_{n\text{P}}$ $[_{n'}$ $n_{\text{[}\pm\text{Container]}}$ $[_{n\text{P}}$ n $\sqrt{glass}]$ $[_{\text{PP}}$ of wine]]]]]]

[27] An issue that could be of concern is the possibility that a KP bearing [-Container] could in principle be merged with Agr_1 and be assigned comitative case. Conversely, the opposite could also be true: a KP bearing [+Container] could be merged with Agr_2 and receive genitive after transfer. This would result in measuring pseudo-partitive with comitative case and individuating ones with genitive case. To rule these out, we can speculate that these options are ruled out directly in the numeration: there is no possible numeration in which Agr_1 coexists with [-Container]; and likewise, Agr_2 could not co-occur with [+Container]. Thus, the presence of [±Container] is contingent on the presence of $\text{Agr}_{1/2}$. This is, however, a stipulation, and a more principled explanation is in order.

The fact that the *of wine* phrase might appear higher on the surface, as Hankamer and Mikkelsen (2008, 2018), Toquero-Pérez (2022a, b) propose, can be due to DP-internal extraposition. This is not an unreasonable solution: Matushansky and Zwarts (2016) observe that DP-internal extraposition is in fact possible in pseudo-partitives in some languages like Basque and, similarly, Norris (2011) reports that DP-internal extraposition is obligatory independently in Icelandic. In short, the fact that there is growing compelling evidence for a uniform syntax calls for a re-examination of the data to assess whether the ambiguity hypothesis is supported, and for a careful consideration of the syntactic diagnostics used to motivate the structure.

In addition, the syntactic analysis proposed here based on interpretable features also opens up the possibility of developing a compositional semantic analysis that does not rely on multiple ambiguities in the meanings of numerals and quantizing nouns (Rothstein 2009, 2017).[28] Instead, the syntax advocated for here presupposes that any differences in compositional semantics should stem from the denotations of the different values of interpretable features borne by the syntactic elements: the container feature. We can speculate that the output of these values can then interact with the measure morphemes introducing the measure functions that will map an element (container or its content) to a degree on a scale (Schwarzschild 2006; Rett 2014; Pancheva 2015; Wellwood 2015, 2019). The compositional semantics for pseudo-partitives is not trivial, though, and thus I must leave this as a potentially promising avenue to pursue in the future.

In addition to these issues, the paper provides novel data from a head-final language where the head of the construction is the substance noun. This is of special importance since this type of head-finality has been argued to be involved in bleeding individuating interpretations in head-final languages (Sağ 2020). Sağ (2020) reports that pseudo-partitives in Turkish are unambiguous: they only allow the measuring interpretation. A sentence like (81) from Sağ (2020), ex.23 can only refer to the volume of water contained in two glasses or two liters.

(81) Mary tepsi-de iki { bardak/ litre} su getir-di.
Mary tray-LOC two glass liter water bring-PST
✓MEAS: 'Mary brought two {glasses/ liters} worth of water on a tray'
#IND: 'Mary brought two individual {glasses/ liters} of water on a tray'

Sağ (2020) notes that Turkish differs from English (and other languages) with respect to head-directionality and the absence of a connecting preposition like *of*. Thus, she proposes that the lack of the individuating interpretation is due precisely to these two facts, and in particular to headedness. The rationale is as follows: (i) *of* is responsible for mapping substances to their measure-units, but if it is absent, that task is passed onto the semantics of the quantizing noun; (ii) if the head is always the substance noun, as in Turkish, it will determine the referent of the pseudo-partitive

[28] For Rothstein (2009, 2017), on the one hand, in the individuating interpretation, the numeral is a modifier of type $\langle e, t\rangle$ that introduces a cardinality measure function and the noun is an entity, also of type $\langle e, t\rangle$, and has a container function as part of its meaning. For measuring pseudo-partitives, on the other hand, the numeral is a degree, i.e. d, and the quantizing noun denotes a function from properties to a function of degrees to properties, i.e. $\langle et, \langle d, et\rangle\rangle$, that introduces a measure function restricted to the quantizing unit: $\mu_{glasses}(x) = d$ where x is bound by the substance.

Table 4 Cross-linguistic Differences in the Expression of Pseudo-Partitives Based on Sağ (2020)

	Preposition		Headedness		Interpretation	
	of	Ø	Head-Initial	Head-Final	IND	MEAS
Turkish	*	✓	*	✓	*	✓
Alasha Mongolian	*	✓	*	✓	✓	✓
English	✓	*	✓	*	✓	✓

Table 5 Typology of Languages Depending on the Availability of

	+Container	-Container	Language
Container-Contents	✓	✓	A. Mongolian, Dutch, English, Hebrew, Russian, Spanish
Contents-only	*	✓	Turkish
Container-only	✓	*	unattested yet
Neither	*	*	unattested yet

in the measure reading; but if the head is the quantizing noun, it will be the referent of the pseudo-partitive in the individuating reading. Sağ assumes that English allows both structures and thus the ambiguity is accounted for.

However, the data from Alasha Mongolian discussed here shows that Sağ's (2020) observation is not accurate. Both Turkish and Alasha Mongolian instantiate the same value of the head-directionality parameter, and yet the former lacks the individuating interpretation while the latter does not. The observations are summarized in Table 4.

The analysis I propose here leaves room for an alternative account of the cross-linguistic difference between Turkish and Alasha Mongolian. We must note that a crucial ingredient in the syntactic derivation driving the individuating-measuring distinction was the value of [±Container] on the layered *n*. Alasha Mongolian has both positive and negative settings of the container value. The lack of individuating interpretations in Turkish can be due to the absence of the positive value of the container feature on the quantizing layered *n*. This entails that the only value that is available on the quantizing *n* is [-Container], bleeding the individuating interpretation in pseudo-partitive structures. If this account of the variation is on the right track, we predict the existence of the typology of languages in Table 5 regarding the availability or lack thereof of individuating/measuring pseudo-partitives.

Container-Contents languages are those in which both feature values are available and comprise the most well-studied group. Contents-only languages are those which lack a [+Container] value. The only language reported of this type so far is

Turkish (Sağ 2020). The analysis of the variation predicts that there might also be Container-only languages, which would be the mirror image of Turkish, but also languages that may lack both feature values and disallow either interpretation. As far as I am aware, there is no reference in the literature (yet) to languages that only allow the individuating interpretation and languages that allow neither, thus leaving both Container-only and languages allowing neither unattested. We should not take this to mean that these language types are unattested because they are impossible. A note is in order, however. It has been observed in typological work that languages do generally have morpho-syntactic means of expressing pseudo-partitive constructions (Koptjevskaja-Tamm 2001, 2009; Seržant 2021). While these works do not focus on the semantic ambiguity of the pseudo-partitive, we can conclude from the simple fact that the construction is typologically widespread that most, if not all, languages have one way to form a pseudo-partitive. Thus, it would be surprising to find a language that lacks the construction altogether (in fact, no language referenced in these works is said to lack it). This would mean that the container feature must be part of the feature inventory of natural languages, either privatively as in Turkish or bivalently as in Alasha Mongolian, English and other languages. This, nevertheless, is an educated speculation and more research should be done to probe the distribution and interpretation of pseudo-partitives.

6 Conclusion

In this paper, I have focused on individuating and measuring pseudo-partitives. There is a open question in the literature as to whether the two types of pseudo-partitives are structurally ambiguous (Landman 2004; Rothstein 2009, 2017; Wilson 2018) or whether they have a single underlying syntax regardless of their semantic interpretation (Lehrer 1986; Matushansky and Zwarts 2016; Ruys 2017; Matushansky et al. 2017). The goal has been to shed light on this debate by describing and analyzing individuating and measuring pseudo-partitives in Alasha Mongolian. Alasha Mongolian is of special relevance because it marks the distinction morpho-syntactically via case on the quantizing noun: comitatitve corresponds to an individuating interpretation and genititve maps to a measuring one. In spite of this difference, the constituency and word order facts do not support two distinct syntactic structures and they are best explained by a uniform syntax. Although the overall syntactic geometry is the same for both, there are some nuanced differences between the two types of pseudo-partitives that eventually feed the relevant semantic interpretation and case marking: the feature content of the quantizing noun and the probe features on the Agr heads. Although many questions remain unanswered, the paper illuminates our understanding of form-meaning mappings in general and pseudo-partitive constructions in particular. It keeps the syntax largely uniform while leaving room for variation in the feature composition and properties of functional elements.

Acknowledgements I am incredibly grateful to Brian Tsagaadai for sharing his language and culture with me. Without his generosity and time, none of this would have been possible. I would also like to thank

the attendees of the USC Spring 2022 field methods class, UCLA's Syn/Sem seminar, and the Universidad Autónoma de Buenos Aires' Ling-Phil reading group, as well as the audience of CUSP13 at UCLA. I am also indebted to Roumi Pancheva for our extended and numerous discussions of pseudo-partitives where we raised some of the observations described here. In addition, I would like to thank Antonio Cleani, Elango Kumaran, Carol-Rose Little, Travis Major, Ora Matushansky, Tommy Tsz-Ming Lee, Alexis Wellwood and Sam Zukoff for comments and feedback. Last but not least, I thank an anonymous reviewer and the editors of the *Journal of East Asian Linguistics*; in particular, Andrew Simpson, who encouraged me to submit this project as part of the special issue on Mongolain, and Daiko Takahashi for style and formatting suggestions. Any errors are my own.

Funding Open access funding provided by SCELC, Statewide California Electronic Library Consortium

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