Strategies for PPs in Ainu

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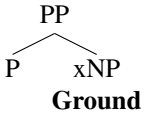
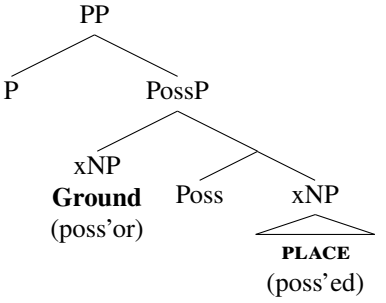
1. Introduction

Adpositions are relational categories that connect the Figure, the object "whose path or site is conceived as a variable the particular value of which is the salient issue", and the Ground, "a reference-point, having a stationary setting within a reference-frame, with respect to which the FIGURE's path or site receives characterization" (Talmy 1978: 419). Although there is agreement in the literature that the adpostion and the extended NP (xNP) that corresponds to the Ground form a constituent to the exclusion of the Figure, there are two differing viewpoints as to how the Ground is embedded under the adposition. The first, more traditional approach, is that the Ground is a complement of (a projection of) P (1). The second view, which goes back to Terzi (2005), is that the direct complement of the adposition is a Kaynean silent noun, PLACE. The Ground itself is merged as a possessor of PLACE (2).

(1) P-complement approach



(2) binominal approach



The two approaches offer differing explanations as to why (a subset of) adpositional expressions in some languages share characteristics with both prototypical Ns and prototypical Ps. According to (1), the extended PP contains a special projection, Ax(ial)PartP, which has these mixed properties by definition (Svenonius 2006): PlaceP > AxPartP > NP(=Ground). In (2), on the other hand, the nominal properties come from PLACE and the adpositional characteristics come from P.

The weakness of the binominal structure in (2) has always been the lack of surface exponence, and hence, lack of direct evidence, for PLACE. Terzi (2010) discusses data from Greek, where a locative P modifies an overt noun meaning 'place' (3). Compare (4), which shows the same locative P in the complex prepositional frame, followed by the light P *apo*.

(3) to brosta meros
the in.front place
(Terzi 2010: 211)

(4) brosta apo tin eklisia
in.front apo the church.ACC
in front of the church (Terzi 2010: 201)

At first sight, (3) might be taken to instantiate a version of (2) that lacks a possessor, with *meros* = PLACE and *brosta* occupying P. However, Terzi argues convincingly that (3) is not a PP. Instead, it corresponds to

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a simple DP projected by the garden variety noun *meros*: [$_{DP}$ D=*to* [*brosta* [$_{NP}$ *meros*]]]. Direct evidence for (2), with all its parts overtly spelled out, thus has been lacking so far.

In this paper I will show that Southern Hokkaido Ainu (moribund isolate, northern Japan, polysynthetic SOV) provides the first clear, overt evidence for the binomial PP structure in (2). The data used here come from published sources on the Saru and Chitose varieties of Southern Hokkaido Ainu (henceforth: SHA). These, in turn, are often based on SHA oral tradition, which limits the possibilities for minimal pairs involving the same lexical items.

2. Support for PLACE from Ainu

Nouns in SHA fall into two types regarding how they combine with adpositions. So-called inherently locative nouns are toponyms or denote landforms (e.g., *kim* 'mountains', *pis* 'beach', *rep* 'open sea'). These are few in number and combine with postpositions directly (5).[1]

(5) kim ta
mountain LOC
in the mountain (Nakagawa 2022: 491)

Most nouns are not inherently locative; these require the help of a relational noun in order to combine with a postposition. The relational nouns in question include *osmak* 'behind', *ka* 'on/over', *sam* 'near/close' and *utur* 'between', among others.[2]

(6) *nupuri ta
mountain LOC
in the mountain
(Nakagawa 2022: 490)

(7) ne nupuri ka ta hemes-pa-an
DEM mountain top LOC climb-PL-INDF.S
when I climbed to the top of that mountain
(Nakagawa 2022: 494)

As seen from the partial list above, relational nouns generally bring in a specific meaning to the PP. In order to express general location, the 'neutral' relational noun *or* lit. 'place' is used (8). The construction with *or* is also used to express the demoted agent of a passive clause (marked with ablative case), see (9).

(8) suwat **or**-o wa
a.fire.hook place-POSS ABL
from the hook over the fire (Nakagawa et al. 2016–2021: K7803233UP.042)

(9) hapo **or**-o wa a=en=koyki
mother place-POSS ABL INDF.A=1SG.OBJ=scold
I was scolded by (lit. from) mother (Bugaeva 2012: 477)

(8) and (9) instantiate the structure in (2), but with overt *or* instead of its silent counterpart PLACE, and *-o* POSS spelling out the Poss head. In order to see this, let us turn to how possession is expressed in SHA.

SHA makes a syntactic distinction between inalienable and alienable possession. In inalienable possession the possessum bears the non-agreeing possessive suffix, whose allomorphs are *-V*, *-hV*, and *-VhV* (with the quality of V determined by vowel harmony). The possessor is cross-referenced on the possessum by a pre-clitic identical to the transitive subject (A) marking pre-clitic of verbs (10). The third

[1] Abbreviations are as follows: A: transitive subject or possessor, ABL: ablative, ACC: accusative, ADE: adessive, ALL: allative, AUGM: augment, COM: comitative, DAT: dative, DEM: demonstrative, DIR: directional, GEN: genitive, INDF: indefinite, INE: inessive, INS: instrumental, LOC: locative, NOM: nominative, NSFX: noun suffix, OBJ: object, PL: plural, POSS: possessive, PTV: partitive, S: intransitive subject, SG: singular. The glosses have been unified to match the conventions in Bugaeva (2012).

[2] *Nupuri* refers specifically to the deep interior mountains. The basic meaning of *ta* is locative, but next to motion verbs, as in (7), it can get a goal interpretation.

person A pre-clitic is null (11), and will not be indicated in the examples. Since Ainu does not have morphological case, the possessor does not bear genitive (or any other) case marking.

(10) (káni) ku-sik-i
1SG 1SG.A-eye-POSS
my eyes (Bugaeva et al. 2022: 45)

(11) seta sara-ha
dog tail-POSS
the dog's tail (Bugaeva 2012: 480)

The composition of (11) is directly parallel to that of the P's complement in (8)/(9). SHA thus provides the first clear case where PPs indeed involve a binominal structure projected by 'place'/PLACE.

Most nouns can only participate in alienable possession. This involves a periphrastic construction: a relative clause headed by the verb *kor* 'have'. Compare the baseline possessive sentence in (12) and the corresponding RC in (13). That in contrast to (10) and (11), (13) is syntactically not a possessive construction is shown by the lack of both the POSS suffix and the pre-clitic on the head *seta* 'dog'.

(12) Poro seta ku-kor.
big dog 1SG.A-have
I had a big dog.
(Bugaeva et al. 2022: 55)

(13) [$_{RC}$ *pro* ___$_i$ ku-kor] seta$_i$
1SG.A-have dog
lit. the dog I have/had
(Bugaeva et al. 2022: 45)

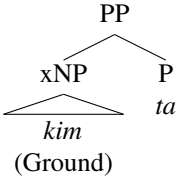
Comparing (8) and (9) on the one hand with (11) and (13) on the other, we find that in PPs expressing general location, the Ground is an inalienable possessor of *or* 'place'. That the relationship between the Ground and PLACE is inalienable has been proposed on semantic grounds in Noonan (2010) and Dékány (2018), but there has been no morpho-syntactic evidence for this view so far. SHA backs up this proposal, as it marks *or* as an inalienably possessed noun.

To summarize, SHA nouns combine with postpositions in two frames. Inherently locative nouns take postpositions directly; in fact, an *or* construction is ungrammatical for them (14).

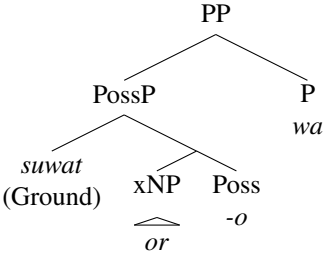
(14) *kim or ta
mountain place LOC
lit. in the place of the mountain (Nakagawa 2022: 491)

I suggest that when the Ground is one of these nouns, the PP has the simpler structure in (1). Nouns which are not inherently locative, on the other hand, combine with Ps in the binominal structure in (2).

(15) P-complement approach, ex. (5)



(16) binominal approach, ex. (8)



(16) is similar to camouflage structures (Collins et al. 2008), in which the meaning of the possessive phrase is identical to that of the possessor and the possessum does not add truthfunctionally relevant meaning.

(17) your majesty/highness/honour

(18) C'est pour ma pomme.
it.is for my apple
It's for me. (Collins et al. 2008) French

I argue that in spite of appearances, there is a common core to (15) and (16): in both cases, the complement of the adposition is (a projection of) a locative noun. As (14) shows, the more complex structure is a last resort operation, which is used only when it is forced. I suggest that the reason why

this more complex structure is mandatory in (8)/(9) is that adpositions in SHA can only embed locative nouns. Since in these examples the requirement on locative complements prevents merging the adposition with the Ground, the Ground is included in the structure in a 'roundabout' way, as a possessive modifier of a semantically bleached locative noun, *or*. In (5)/(15) it is not necessary, and therefore not allowed, to 'push out' the Ground from the P-complement position into a left branch. Here the Ground is instantiated by a locative noun, and therefore as a matter of economy, the simpler structure prevails. In both cases, the adposition ends up with a complement that is (a projection of) an inherently locative noun.

3. Refining the PLACE Analysis for Ainu

In the previous section we saw that general location is expressed by a POSS marked *or* 'place'. If the Ground is animate, as in (9), this is the only possibility. If the Ground is inanimate, this is possible (8), but the more frequent option is that *or* appears bare, without POSS (19).

(19) cip **or** wa
boat place ABL
from the boat (Bugaeva 2022b: 667)

Since in possessive phrases the POSS marker is not optional, I propose that in examples like (19) we are not looking at a possessive construction. Instead, in these cases the noun that corresponds to the Ground is compounded to *or* 'place' (see also Sato 2021).

(20) [$_{PP}$ [$_{xNP}$ *cip or*] P=*wa*]

The compounding strategy is an alternative way to achieve the same end as the possessive strategy (16): we end up including the Ground in the adposition's complement, but that complement is headed by a locative noun, *or*. That a relational noun can function as the head of a compound is confirmed by (21).

(21) a. os-or
backward-place
buttocks (Nakagawa 2022: 498)

b. ure-asam
foot-bottom
sole (Nakagawa 2022: 498)

I take the obligatory POSS marking of *or* with animate Grounds to indicate that these Grounds cannot be compounded to *or*, so the only strategy available for them is (16). At present, I have no suggestions as to why this should be the case; perhaps animates in this context have a functional layer that makes them structurally too big to be included in a compound. It is worth noting, however, that a similar situation characterizes Sora (South Munda, India). As described in Starosta (1976), Sora nouns denoting places, structures and land forms can occur as locations directly. Sora does not have an overt locative case or adposition (and NSFX is not a case ending); I assume that (22) has a phonologically null P.

(22) Anin bəru-n yɛr-lɛ.
he hill.field-NSFX went
He went to the hill field. (Starosta 1976: 1089, glosses adapted) Sora

Inanimate nouns that do not fall into the above-mentioned categories do not occur as locations on their own; they must be compounded to *leŋ* 'place, bounded area' or *ba* 'point, place'.

(23) Kudub-ənji dʔa-leŋ-ən gəlo-lɛji.
all.of.them water-place-NSFX fell
All of them fell in the water. (Starosta 1976: 1089, glosses adapted) Sora

Finally, Sora animates cannot occur as locations on their own either. Such nouns must be included in the structure as the possessor of *məŋ* 'area, vicinity'. Note that Sora does not have genitive case, and the possessum agrees for the ϕ-features of the possessor.

(24) Dɔ konne biñ babu-n a-məŋ iy-lay.
so here however Babu-NSFX POSS.3SG-vicinity came
So however I came to the Babu('s vicinity) here. (Starosta 1976: 1093, glosses adapted) Sora

Starosta translates *məŋ* as 'area, vicinity'. In light of the synonymous relationship between 'place' and 'area', I take this formative (along with *leŋ* 'place, bounded area' and *ba* 'point, place') to be an overt counterpart of PLACE, similarly to SHA *or*. I propose that (24) has the structure in (2), with the agreeing possessive affix spelling out the Poss head.

Sora thus exhibits a three-way division of locative structures which is similar to that observed in SHA: i) inherently locative nouns directly combine with adpositions, ii) not inherently locative inanimate nouns are compounded to a locative noun in order to take adpositions, and iii) animate nouns are construed as possessors of a locative noun in order to take adpositions. SHA differs from Sora in that it allows inanimate nouns which are not inherently locative to optionally avail themselves of the possessive strategy.

4. Specific Relational Nouns

Similarly to *or* 'place', other relational nouns in SHA may or may not bear POSS.

(25) wakka-o-ontaro **sam-a** ta ek
water-enter-tub near-POSS LOC come.3SG
[the younger one] went near the water crock (Nakagawa et al. 2016–2021: K7908032UP.174)

(26) apa **sam** ta a=an
door near LOC sit.SG=INDF.S
I sat down near the front door. (Bugaeva 2012: 476)

I suggest that examples like (25) have the binominal structure depicted in (16), while examples like (26) involve compounds with the structure in (20). (25) and (26) differ from (16) and (20) in having a specific relational noun at the core of the structure instead of *or*.

Terzi (2010) argues that in Greek and English, words like 'front', 'back' and 'under' are involved in a binominal structure but they are not the head noun of that structure. She argues that the xNP in the complement of the P head is a projection of silent PLACE, and 'front', 'back', etc. are just modifiers of PLACE, similarly to what we see in (3) from Greek. This is illustrated in (27).

(27) [$_{P}$ *in* [$_{DP}$ *front* PLACE [$_{DP}$ *of the house*]]] (Terzi 2010: 212)

While I have not seen this structure play out in SHA, where a specific relational noun appears to function as the head of a binominal (25) or a compound (26), there appears to be some initial evidence for Terzi's proposal in the West Sakhalin Ainu (WSA) variety.

WSA is significantly different from SHA in a number of respects, but in PPs it makes the split between inherently locative and non-locative nouns in the same way as SHA does. The former class combines with Ps directly, while the latter requires either *oh/oro* 'place' or a specific relational noun to mediate the relationship with the postposition. (It is unclear to me if in this variety *oro* is the citation form or it is a POSS marked form; Tangiku 2022: 338 translates it as 'place of ~'.)

(28) susu-cayteh-'oro-wa
willow-limb-place-ABL
from the limbs of a willow
(Dal Corso 2021: 64)

(29) atuy-ka-wa
sea-top-ABL
from the open sea
(Dal Corso 2021: 62)

Constructions with a relational noun usually have "the stress pattern of a single word", but there are also cases in which the Ground is "prosodically separated from the locative noun" (Dal Corso 2021: 64). I take this as confirmation that the Ground can, but does not have to be, compounded to the locative noun.

In a few cases, specific relational nouns have been observed to co-occur with *oro*. In the first half of (30) the relational noun *kaa* 'top' may form a compound with *oro*. However, this is not fesible for *kas* 'over' in the second half of (30) and *tukun* 'middle part' in (31), as these relational nouns bear partitive and possessive marking, respectively. Thus in these examples, *kas* and *tukun* are likely embedded in a complex specifier that modifies *oro*.[3]

(30) 'ota-**kaa-'oro**-wạ _ururu-**kas**-ke-**oro**-wa [PP [xNP [*_ururu-**kas**-ke*] *oro*] P=*wa*]
beach-top-place-ABL shore-over-PTV-place-ABL
from the higher portion of the shore, from the top of the beach
(Dal Corso 2021: Tale 4, The great god)

(31) kirupu 'arikir-**tukun-[e]he-'oro**-wa nunnun
grease middle.part-middle.part-POSS-place-ABL 3SG.A/3SG.OBJ/suck
[The baby boy had] sucked the central part of the [piece of] fat
(Dal Corso 2021: Tale 5, A daughter)

Dal Corso (2021: 64) characterizes *oro* in these environments as essentially "superfluous", since the specific relational noun would render the expression grammatical by itself. This pattern may be taken to instantiate the structure in (27), but with overt 'place'. However, more data is required for a qualified assessment of this pattern. These unusual PPs of WSA make an interesting case for further study.

5. Clitic Choice

In the foregoing discussion we have seen that if the Ground is not an inherently locative noun, then depending on animacy, SHA can or must adopt an inalienable possessive structure to express spatial configurations. While the PPs in question are clearly marked for possession by the POSS suffix and the pre-clitic (33), ordinary possessives and PPs utilize two different clitic series: the former involve the clitic series for transitive subjects, while the latter take the clitic series for objects. Let us illustrate this pattern.

SHA has mixed alignment on verbs (Bugaeva 2012). The so-called 'indefinite person' or 'fourth person' (glossed as INDF) covers the indefinite proper, the first person plural inclusive, logophoric, and the second person honorific. For arguments falling into these categories, alignment is tripartite: A is indexed by *a-*, S by *-an*, and OBJ by *-i*. As shown in (32), in garden-variety possessive structures the possessum takes the A clitic series to reflect the possessor's ϕ-features. In PPs, on the other hand, *or* 'place' and other relational nouns take the OBJ series to reflect the Ground's ϕ-features (33).

(32) a-po-ho
INDF.A-child-POSS
our son (Nakagawa et al. 2016–2021)

(33) i-etok-o ta
INDF.OBJ-before-POSS LOC
before us (Bugaeva 2022a: 42)[4]

I suggest that this is due to the different argument structures of ordinary possessive structures and PPs. Possessors are nominal arguments introduced in Spec, NP/PossP. An ordinary noun with a possessor has this single argument, and in (32) the A clitic reflects the position of this argument as a specifier rather than a complement. Relational nouns, on the other hand, are integrated into PP structures, where there are ultimately two arguments. In (33), as a possessor, the Ground is introduced in Spec, NP/PossP. However, it will now be the lower of two arguments, because the second argument, the Figure, is merged higher (e.g., in Spec, *p*P, as in Svenonius 2003). This configuration for the Ground resembles that of verbal objects in e.g., Hale & Keyser (2002), and it is reflected in the choice of the OBJ clitic series. That is, we see Marantz's (1992) Dependent Case Theory play out in the realm of clitic doubling: the pre-clitic on possessums is sensitive to whether the indexed possessor is c-commanded by another NP.

[3] The '_' symbol in the WSA data indicates phonological assimilation or dissimilation.

[4] With first and second person pronominal Grounds, the POSS suffix can be dropped (Bugaeva et al. 2022). In fast speech, the *-Vh* of regular possessive expressions is also often dropped. For instance, *ku-sik-ihi* 'my eye' (lit. 1SG-eye-POSS) becomes reduced to *ku-sik-i*, and *sapa-ha* 'its head' (lit. head-POSS) is reduced to *sapa*, which then falls together with the unpossessed form *sapa* 'head' (Tamura 1988/2000: 85).

6. Consequences for the Case Hierarchy

That some PPs have an underlying binominal structure has consequences for what type of data can be taken to provide direct evidence for Caha's (2009) case hierarchy. Caha argues that cases correspond to feature matrices, such that the number of features associated with each case grows monotonically as we move along the hierarchy in (34) ('cumulative' decomposition of cases).

(34) NOM < ACC < LOC_1 < GEN < prepositional(=LOC_2) < DAT / ALL < ABL < INS < COM

Two crucial types of evidence for (34) are syncretism and compound case marking. Given the *ABA restriction on the spell-out of syntactic structures, (34) predicts that only contiguous sequences of the hierarchy can be syncretic. Cross-linguistic case syncretism patterns bear out this prediction. Compound case marking means that two case suffixes mark a single semantic role together. A well-known case from Lezgian is illustrated below: here directional cases are morphologically built on stative locative cases.

(35) sew-re-w
bear-AUGM-ADE
at the bear (Riemsdijk & Huybregts 2001)

(36) sew-re-w-di
bear-AUGM-ADE-DIR
toward the bear Lezgian

(34) predicts that more complex, higher cases can morphologically contain less complex, lower cases, but not the other way around. Compound case marking thus directly reveals morpho-syntactic containment relationships between cases, and the attested patterns are indeed consistent with (34).

Crucially to us, in some languages spatial cases are morphologically built on the genitive. This is the case in Estonian or Purik Tibetan.

(37) behes-j-aŋ
heaven-GEN-INE
in heaven (Zemp 2018: 334)

(38) jar-i-ka-na
you(Hon)-GEN-LOC-ABL
from you (Zemp 2018: 410) Purik Tibetan

Previously this has been taken as direct evidence for (34), where the locative_2 and directional cases are featurally built on the genitive (Caha 2009: 70, 114). In light of the binominal analysis of PPs, such data remain compatible with (34), however, they no longer provide direct support for it. This is because with (2) in place, an alternative analysis of the 'locative/directional over genitive' pattern presents itself.

Take a scenario in which a language uses the binominal structure for (some) PPs with silent PLACE. If that language i) has overt genitive marking on possessors, ii) it has no overt morpheme in the POSS head, and iii) it expones the P head with case suffixes, then—due to the silence of PLACE—the genitive marking on the Ground and the locative/directional marker of the PP will end up being surface-adjacent.

(39) [$_{\text{PP}}$ [$_{\text{PossP}}$ [$_{\text{poss'or}}$ **Ground-Gen**] PLACE POSS=∅] P=**Loc/All/Abl**]

In (39) bold marks the overt components. Although at PF the case exponent of P is adjacent to and is hosted by the possessor (Ground-GEN-LOC/ALL/ABL), this is not an instance of compound case marking: under the surface, there are two different cases on two different NPs (Ground-GEN and PLACE-LOC/ALL/ABL). A similar scenario, but with surface-ellipsis of the possessum rather than deep silence (i.e., association with a zero spellout in the lexicon), obtains in Huallaga Quechua. When the possessum is elided and so cannot support is own case marker, this case leans onto the adjacent possessor at PF for phonological support.

(40) Hwan-pa wasi-n-ta rika-a.
John-GEN house-3SG-ACC see-1SG
I see John's house. (Blake 2001: 103)

(41) Hwan-pa-ta rika-a.
John-GEN-ACC see-1SG
I see John's (house). (Blake 2001: 103)

What we can conclude from this is that the stacking of locative or directional markers on the genitive is compatible with two different analyses: compound case marking on a single noun, as per (34), or a binominal structure with silent PLACE (39). These instances of surface case-stacking thus need to be carefully examined on a case-by-case basis in order to determine which structure underlies them.

7. Conclusions

This paper has discussed evidence for two different underlying structures for PPs. In one case the Ground is the adpositional object (1), in the other it is a possessor of the adpositional object (2).

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