

1. Noun phrase constituent order

Nouns are typically the final constituent in a noun phrase, and with the exception of adnominal numerals and quantifiers (§6 and §7), and any other ordering is ungrammatical. (1) is grammatical because the adjective, *riŋmo* ‘tall’ occurs before the noun *mi* ‘man’ in the noun phrase. (2) is ungrammatical because the adjective occurs after the noun.

(1) *riŋmo mʲu-s* *bʲaʃa* *zo-s*
tall man.DEF-ERG chicken.meat eat-PST
‘The tall man ate chicken.’

(2) **mʲu-s* *riŋmo bʲaʃa* *zo-s*
man.DEF-ERG tall chicken.meat eat-PST
(‘The tall man ate chicken.’)

Adnominal relative clauses also occur in the same syntactic position as adnominal adjectives: before the nouns they modify in a noun phrase.

(3) *ŋa* *rdʌpi* *bjəŋbu* *tebl, -i* *kʰa* *jət*
1SG kill.PTCP fly.DEF table-GEN on COP
‘The fly that I killed was on the table.’

(4) **ŋa* *bʲaŋbu* *rdʌpi* *tebl, -i* *kʰa* *jət*
1SG fly.DEF kill.PTCP table-GEN on COP
(‘The fly that I killed was on the table.’)

2. Balti nominal morphology

2.1 Case

Balti has four cases which are marked on nouns (see Case) for a more in-depth examination of the Balti case system. These cases are marked on the final constituent of the noun phrase, which is usually the head noun (exceptions include adnominal numerals (§6) and adnominal quantifiers (§7)). In (1) (rewritten below) the ergative marker occurs on the final constituent of the noun phrase, *mi* ‘man’ (which is also marked for definiteness). In (5), the adjective occurs in its correct position in the phrase (before the noun) but is marked for ergativity, which makes it ungrammatical. In (6), case is marked on the final constituent of the phrase, but because the final constituent is an adjective following the noun it modifies (the head of the phrase), the sentence is ungrammatical.

(1) *riŋmo mʲu-s* *bʲaʃa* *zo-s*
tall man.DEF-ERG chicken.meat eat-PST

‘The tall man ate chicken.’

- (5) *riŋmo-s mʲu bʲaʃa zo-s
tall-ERG man.DEF chicken.meat eat-PST
(‘The tall man ate chicken.’)

- (6) *mʲu riŋmo-s bʲaʃa zo-s
man.DEF tall-ERG chicken.meat eat-PST
(‘The tall man ate chicken.’)

When there are multiple noun phrases connected by a conjunction that are in the same grammatical role, only the final constituent of the final noun phrase is marked for case. In (7) ‘Meredith’ and ‘Liam’ are both indirect objects, but only ‘Liam’ is marked with the dative case marker.

- (7) mohamad-i mɛrɛdiθ na liam-la kʰi tʰɪk mɪn-s
Muhammad-ERG Meredith and Liam-DAT dog one give-PST
‘Muhammad gave Meredith and Liam one dog.’
(Jennifer Kaplan; 2020/03/04; GM)

2.2 Definiteness

Balti has four mechanisms for definite marking: vowel-backing, *ŋ* and markers *po* and *kun* (see §section on definiteness for information). Definiteness is almost always marked on the definite noun, and differs from case in that it usually occurs on the noun even if the noun is not the final constituent of the noun phrase (see section on adnominal numerals for the only exception I have found to this).

Contrast (8), (9), and (10). In (8), case is marked on the phrase-final constituent, the adnominal quantifier *tʰsa*, whereas definiteness is marked on the head noun. In (9), however, both case and definiteness are marked on the phrase-final constituent, *tʰsa*, which is ungrammatical. In (10), both case and definiteness are marked on the head noun, which is also ungrammatical. Case must always occur on the phrase-final constituent, whereas definiteness almost always occurs on the noun regardless of its position in the phrase (again, see section on adnominal numerals for the only exception).

- (8) bendoq-po tʰsa-s bjo zo-s
vulture-DEF only-ERG mouse.DEF eat.PST
‘Only the vulture ate the mouse.’

(9) *bendoq tso-s bjo zo-s
 vulture only.DEF-ERG mouse.DEF eat.PST
 ('Only the vulture ate the mouse.')

(10) *bendoq-po-wis tsa bjo zo-s
 vulture-DEF-ERG only mouse.DEF eat.PST
 ('Only the vulture ate the mouse.')

3. Nominal Morphology and Ordering

Strategies for marking definiteness can co-occur with all of Balti's cases. I would like to point out here that in several cases I had to specifically ask if it was okay to place a definite marker before the case, because the consultant originally had left the definite marker out. I think this is largely phonological, especially with *po* and vowel-backing, which can be difficult to combine with vowel-initial cases, such as locative, genitive, and sometimes ergative. In all cases, the consultant indicated that to include the definite marker would be more correct and would emphasize the definiteness, but that in daily speech, it can be left out.

3.1 Absolute and Definiteness

(11) bɛndaq-po p^hur-s
 vulture-DEF.ABS fly-PST

(12) ʌbʊl kʊn ʃi-s
 snake DEF.pl.ABS die-PST
 'Snakes died.'

(13) kju rgjuk-s
 dog.DEF.ABS run-PST

3.2 Ergative and Definiteness

(14) naqpo rgatpo bɛndaq-po-s bʲo zɛn jʊt
 black old vulture-DEF-ERG mouse.DEF eat.PROG be_[PROG]
 'The old black vulture is eating the mouse.'

(15) ʌbul kun-is ŋa-s t̃sospɪ bʲo-ŋ zo-s
 snake DEF.pl-ERG I-ERG feed.PTCP mouse.DEF-pl eat-PST
 'The snakes ate the mice I fed them.'

(16) kʲu-s bʲo rdʌp-s
 dog.DEF-ERG mouse.DEF kill-PST

‘The dog killed the mouse.’

Cf. *kʰi* ‘dog’; *bʰa* ‘mouse’

3.3 Dative and Definiteness

- (17) *karpo tita bɛndaq-po-s naqpo bɛndaq-po-la bʰa-tʰi*
white small vulture-DEF-ERG black vulture-DEF-DAT mouse-INDEF

za min-s
to.eat give-PST

‘The small white vulture gave the black vulture a mouse to eat.’

- (18) *kaŋ-i pʰoq kun-la fon bja mi rgʊspi In*
you friend DEF.PL-DAT phone do.INF NEG need.PTCP COP_[AUX]

‘It is not needed to call your friends.’

- (19) *bʰo-la kʰu toŋma na bʰo ʃo-s*
Mouse.DEF-DAT dog look.INF and mouse.DEF run-PST

‘The mouse looked at the dog and ran away.’

3.4 Genitive and Definiteness

- (20) *naqpo rgatpo bɛndaq-po-wi kaŋma-ŋ marfo jʊt*
black old vulture-DEF-GEN foot-PL red COP

‘The old black vulture’s feet are red.’

- (21) *ŋa-s ʒbul kun-i kʰa rdʷa taŋ-s*
1SG-ERG snake DEF.pl-GEN on rock put-PST

‘I threw a rock on the snakes.’

- (22) *ŋa-s kʰju-i kʰa tʰʃuk pu-s*
1SG-ERG dog.DEF-GEN on water pour-PST

‘I poured water on the dog.’

3.5 Locative and Definiteness

- (23) *karfo tita bɛndaq-po na naqpo rgatpo bɛndaq-po-wi bje*
white small vulture-DEF and black old vulture-DEF-GEN bird

fru-ŋ tsanʃts-pʷ-ɛŋ jut
baby-PL nest-DEF-LOC COP

‘The old black vulture and the small white vulture’s babies are in the nest.’

3.1.6 Ablative and Definiteness

(24) η a-s η i ka η xlam-po t \hat{c} sunt \hat{c} se karfo b ϵ ndaq-p^we-na
1SG-ERG 1SG.POSS shoe-DEF young white vulture-DEF-ABL

qoq-s

grab-PST

‘I grabbed my shoe from the young white vulture.’

4. Multiple Noun Phrases in the Same Grammatical Role

When two definite noun phrases in the same grammatical role are connected by a conjunction, the head noun (again, see section on numerals for exceptions) of both noun phrases are marked for definiteness, but only the final constituent of the final noun phrase is marked for case (as in (25)).

(25) naqpo rgatpo b ϵ ndaq-po na karfo t \hat{c} sunt \hat{c} se b ϵ ndaq-po-s
black old vulture-DEF and white young vulture-DEF-ERG

b \circ o z ϵ n j σ t
mouse.DEF eat.PROG be_[PROG]

‘The old black vulture and the young white vulture are eating the mouse.’

When a definite noun phrase and an indefinite noun phrase occur in the same grammatical role, the same applies. Definiteness and indefiniteness are marked on the head noun for each noun phrase, whereas case is only marked on the final constituent of the final noun phrase in the grammatical role ((26)).

(26) mi(t \hat{c} fi) na afo-s zo-s
man(INDEF) and woman.DEF eat-PST

5. Demonstratives

5.1 Adnominal demonstratives

Adnominal demonstratives, like adnominal adjectives and adnominal embedded clauses, occur before the noun and do not get marked with nominal morphology.

(27) di k \circ u η i in
this dog.DEF my COP

‘This dog is mine.’

5.2 Demonstratives pronouns

Demonstrative pronouns, as the singular constituent in the noun phrase are marked with nominal morphology. In (29), *di* ‘this’ is marked for definiteness through vowel-backing. In (30) it is marked for definiteness and for dative case.

(29) dʰu kʰi in
this.DEF dog COP
‘This is a dog.’

(30) ŋa-s dʰu-la zan min-a
1SG-ERG this.DEF-DAT food give-Q
‘You want me to feed *this*?’

Note: Italics denote emphasis; the context of this sentence was that I was asked to feed a disgusting creature, and I responded with the above question.

6. Adnominal numerals

As alluded to several times in the preceding sections, adnominal numerals do not pattern with other adnominals (adnominal adjectives, adnominal embedded clauses, and adnominal demonstratives). Adnominal numerals usually occur finally within the noun phrase (they do not always, see section on adnominal quantifiers). Unlike adnominal adjectives and adnominal embedded clauses, the head noun precedes the adnominal numeral.

(31) kʰi ʒa rgjuk-s
dog five run-PST
‘Five dogs ran.’

(32) *ʒa kʰi rgjuk-s
five dog run-PST
(‘Five dogs ran.’)

6.1 Adnominal Numerals and Definiteness

Adnominal numerals are marked for definiteness, and marking the head noun instead of the adnominal numeral results in ungrammaticality. In (31), the numeral is marked for definiteness, which is grammatical. In (32), though, definiteness and plurality are marked on the head noun, which, when followed by the numeral, is ungrammatical.

(32) kʰi ʒa po rgjuk-s
dog five DEF run-PST
‘The five dogs ran.’

- (33) *k^hju-ŋ ʁa rgjuk-s
 dog.DEF-pl five run-PST
 ('the five dogs ran.')

6.2 Adnominal Numerals and Case

Because the head noun generally precedes the adnominal numeral, the adnominal numeral is usually (see §7) the final constituent in the noun phrase. When it is the final constituent in the noun-phrase, it is marked for case ((34) and (35)).

- (34) t^hʃoʁo ba sum-po-s zɛt.
 big cow three-DEF-ERG eat.PRESENT
 'The three big cows eat.'

- (35) pɛn-po mɪnʌt ʁa-la ŋa-la mɪn
 pen-DEF minute five-DAT I-DAT give.IMPERATIVE
 'Give me that pen for five minutes.'

7. Adnominal Quantifiers

This section is by no means an exhaustive exploration of adnominal quantifiers. Rather, it looks at three adnominal quantifiers, *gaŋma* 'all', *t^hsa* 'only' and *rɛrɛ/rɛrɛ ga* 'each/every' in order to get a general sense of their roles within the noun phrase. *gaŋma* 'all' and *t^hsa* 'only' pattern together in terms of their role within the noun phrase, while *rɛrɛ/rɛrɛ ga* 'each/every' behaves differently.

7.1 *gaŋma* 'all' and *t^hsa* 'only'

As is the case with adnominal numerals, the head noun precedes *gaŋma* 'all' and *t^hsa* 'only' ((36) and (37)). The head noun cannot follow these adnominal quantifiers in the noun phrase ((38) and (39)).

- (36) ŋa t^hsa-s zo-s
 1SG only-ERG eat-PST
 'Only I ate.'

- (37) k^hju-ŋ gaŋma rgjuɛn jʊt
 dog.DEF-PL all run-PROG be_[PROG]
 'All of the dogs are running.'

- (38) *t^hsa ŋa-s zo-s

only I-ERG eat-PST
 ('Only I ate.')

- (39) *gaṇma kju-ŋ rgjuɛn jɔt
 all dog.DEF-PL run-PROG AUX_[PROG]
 'All of the dogs are running.'

7.1.1 *gaṇma* 'all' and *t̂sa* 'only' and Case

Because these adnominal quantifiers always occur phrase finally, they are marked for case ((36), rewritten below), and case cannot be marked on the head noun ((40)).

- (36) ṇa t̂sa-s zo-s
 1SG only-ERG eat-PST
 'Only I ate.'

- (40) *ṇa-s t̂sa zo-s
 1SG-ERG only eat-PST
 ('Only I ate.')

- (41) di gaṇma-s t̂fa t^hul-ɛn jut
 these all-ERG tea drink-PROG AUX_[PROG]
 'They all are drinking tea.'

7.1.2 *gaṇma* 'all' and *t̂sa* 'only' and Definiteness

Definiteness, however, is never marked on the *gaṇma* or *t̂sa*, and is usually (see §7.1.3) marked on the head noun that proceeds it. The only acceptable ordering is (8), rewritten below, where case is marked on the *t̂sa*, whereas definiteness is marked on the head noun. In (9), however, both case and definiteness are marked on *t̂sa*, which is ungrammatical. In (10), both case and definiteness are marked on the head noun, which is also ungrammatical.

- (8) bendoq-po t̂sa-s bjo zo-s
 vulture-DEF only-ERG mouse.DEF eat-PST
 'Only the vulture ate the mouse.'

- (9) *bendoq tso-s bjo zo-s
 vulture only.DEF-ERG mouse.DEF eat-PST
 ('Only the vulture ate the mouse.')

- (10) *bendoq-po-wis tsa bjo zo-s

vulture-DEF-ERG only mouse.DEF eat-PST
 ('Only the vulture ate the mouse.')

7.1.3 *gaṇma* 'all' and *t̂sa* 'only' and Adnominal Numerals

In situations where there is both an adnominal numeral and one of these adnominal quantifiers, the adnominal quantifier occurs phrase-finally, and is marked for case. The adnominal numeral occurs directly after the head noun, and is marked for definiteness.

(42) mi nis-po t̂sa-s zo-s
 man two-DEF only-ERG eat-PST
 'Only the two men ate.'

(43) mi ʁa-po t̂sa-s zo-s
 man five-DEF only-ERG eat-PST
 'Only the five men ate.'

7.1.4 *gaṇma* 'all' and *t̂sa* 'only' – Derived from verbs?

Both *gaṇma* and *t̂sa* seem to have their origins in verb constructions. In Balti, both *gaṇma* and *t̂saṇma* are verbs. In Purik, *t̂sa* on its own is also a delimitative verbal suffix (Zemp, 2018, 25, 365). It is possible that this construction exists in Balti as well, but I have not found evidence for it.

gaṇma is a verb meaning 'to be filled.' Its counterpart *skāṇma* means 'to fill up.' Even when behaving as a verb and not an adnominal quantifier, *gaṇma* can take on the meaning of 'to be completed'. In (44), *gaṇma* means 'to be completed' and the subject of *gaṇma* is *lo* 'year'. The entire phrase indicates that the cycle of a year has been completed.

(44) Janwari t̂ən-i mən na ŋaia-s Balti †sabən
 January arrive-GEN until and we- Balti learn-PROG

 lo t̂ʃik gaṇm-i in
 year one be.complete-FUT AUX_[FUT]
 'In January, we will have been studying Balti for one year.'

t̂saṇma in Balti is a verb meaning 'to be completed' and can be suffixed with the causative marker *t̂ʃuk* to mean 'to complete.'

(45) sukul-iṅ-na loqse ŋaṅ-uṅ oṅ-se zan ze-i
 school-LOC-ABL house-LOC go-ADV food eat-GEN

mən na ŋa-s ʃoɕbu zɛrɛ t̂saŋ-t̂ʃuk-s
 until and 1SG-ERG book COMP be.complete-CAUS-PST
 ‘Between coming home from school and eating, I finished a book.’

7.2 *rɛrɛ/ga rɛrɛ* ‘every/each’

rɛrɛ and *ga rɛrɛ*, are essentially one adnominal quantifier construction, which roughly translate to ‘every’ or ‘each’ in English. Zemp (2018) hypothesizes that *rɛrɛ* is perhaps a reduplication of *-re*, an enclitic in some Western Tibetan dialects meaning ‘single’/ ‘a single one’ (Zemp, 2018, 286; c.f. Jäschke, 1881). I found no evidence of the *-re* enclitic in Balti. However, both *rɛrɛ*, in ((46)) denoting the meaning ‘one each’, and *nisnis* (a reduplication of *nis* ‘two’), in ((47)) denoting the meaning ‘two each’ are present, which seems to support the hypothesis that *rɛrɛ* is reduplication.

(46) ŋa-s student ga rɛrɛ-la kuʃu rɛrɛ mɪn-s
 1SG-ERG student which each-DAT apple each give-PST
 ‘I gave each of the students an apple.’

(47) ŋa-s student ga rɛrɛ-la kuʃu niŋis mɪn-s
 1SG-ERG student which each-DAT apple two.REDUP give-PST
 ‘I gave the students two apples each.’

In Balti, the default is for *rɛrɛ* to occur following every countable argument. In (46), *rɛrɛ* occurs following both *student* ‘student’ and *kuʃu* ‘apple’. In situations where there is only one countable argument, *rɛrɛ* only occurs once, and it is ungrammatical to include a second *rɛrɛ* ((48) and (49)).

(48) ŋa-s khi rɛrɛ-la za-tʃɛs mɪn-s
 I-ERG dog each-DAT eat-thing give-PST
 ‘I fed each dog.’

(49) *ŋa-s khi rɛrɛ-la za-tʃɛs rɛrɛ mɪn-s
 I-ERG dog each-DAT eat-thing each give-PST
 (‘I fed each dog.’)

7.2.1 *ga*

A key part of this construction additionally is *ga*, which can be added anywhere within the noun phrase before *rɛrɛ*, which is always the final constituent (see §7.2.2). *ga* was identified by the

consultant as an interrogative pronoun meaning ‘which’, and in sentences with multiple countable arguments, can be added to both ((50)) or only one ((51)). It remains somewhat unclear to me, however, what the addition of *ga* means in the construction. When there are two instances of *rεrε* in a sentence, at least one *ga* seems necessary ((52)). My current hypothesis is that *ga* serves to further differentiate individual components of the group of objects described by the noun (to further differentiate, for example, each individual dog in a group of dogs), but the construction remains somewhat opaque.

(50) ηα-s ga khi rεrε-la ga b'οηο rεrε
 1SG-ERG which dog each-DAT which chicken each

min-s
 give-PST
 ‘I gave each dog a chicken.’

(51) ηα-s khi ga rεrε-la b'οηο rεrε min-s
 1SG-ERG dog which each-DAT chicken each give-PST

‘I gave each dog a chicken.’

(52) *ηα-s khi rεrε-la b'οηο rεrε
 1SG-ERG dog each-DAT chicken each

min-s
 give-PST
 (‘I gave each dog a chicken.’)

When *ga* is present independent of *rεrε* in the noun phrase, it is only as an interrogative pronoun, and any meaning of ‘each’ or ‘every’ is lost ((53)).

(53) ηα-s ga khi-la b'οηο rεrε min-s
 1SG-ERG which dog-DAT chicken each give-PST

Intended: ‘I gave each dog a chicken.’
Result: ‘To which dog did you give each chicken?’

7.2.2 *rεrε/ga rεrε* position in the NP and interaction with Case

Despite the fact that this construction is not yet transparent, it does seem that with regards to positioning in the noun phrase, it is similar to *γαημα* and *t̂sa*. *rεrε* is marked for case and is always the final constituent in the noun phrase ((54)-(58)). *ga* has freer order and can occur

anywhere in the noun phrase directly before *rɛrɛ* ((54) or directly before the head noun (55)), but cannot be marked for case or occur after *rɛrɛ* ((56)). (Note: sentences marked with an asterisk were rejected, sentences marked with a ? described as “strange” and somewhat wrong. On a scale of 1 to 5, the consultant rated them a 3.)

(54) *ŋa-s kʰi ga rɛrɛ-la b'ɔŋo rɛrɛ min-s*
 1SG-ERG dog which each-DAT chicken each give-PST
 ‘I gave each dog a chicken.’

(55) *ŋa-s ga kʰi rɛrɛ-la b'ɔŋo rɛrɛ min-s*
 1SG-ERG which dog each-DAT chicken each give-PST
 ‘I gave each dog a chicken.’

(56) **ŋa-s kʰi rɛrɛ ga-la b'ɔŋo rɛrɛ min-s*
 1SG-ERG dog each which-DAT chicken each give-PST
 (‘I gave each dog a chicken.’)

(57) ?*ŋa-s ga rɛrɛ kʰi-la b'ɔŋo rɛrɛ min-s*
 1SG-ERG which each dog-DAT chicken each give-PST
 (‘I gave each dog a chicken.’)

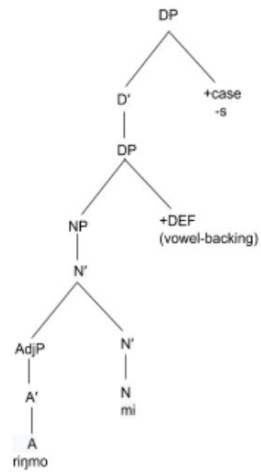
(58) **ŋa-s rɛrɛ ga kʰi-la b'ɔŋo rɛrɛ min-s*
 1SG-ERG each which dog-DAT chicken each give-PST
 (‘I gave each dog a chicken.’)

It seems that the default position for *ga* is directly before the head noun, which is in turn before *rɛrɛ*, but it can also directly precede *rɛrɛ*. In terms of its role in the noun phrase *ga* seems, in its default position, to behave much like an adnominal adjective.

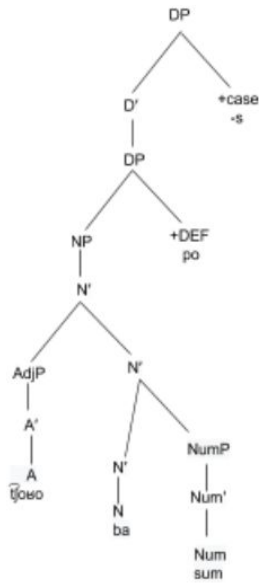
8. Conclusion

All of this evidence points to a phrase where case occurs phrasally (I think likely in the specifier position of the DP), whereas definiteness occurs more locally to the head noun (in the specifier to a nested DP). I think structurally, the following would be reasonable suggestions.

1. *riŋmo mʰu-s*
 tall man.DEF-ERG
 ‘the tall man (ergative)’



2. t̂soʁo ba sum-po-s
 big cow three-DEF-ERG
 ‘the three big cows (ergative)’



3. mi ʁa-po t̂sa-s
 man five-DEF only-ERG

