Case-marking and nominal structure in Pitjantjatjara

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ALS 2019 @ Macquarie University

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The Pitjantjatjara/Yankunytjatjara case marking system:

> “presents a complex picture, not so much in the sheer number of markers … but in the way that morphological, phonological and semantic factors interact to determine their distribution.”
>
> (Goddard, 1985: 24)

Outline

Data showing the distribution of case markers across several different constructions.

We find 3 patterns of case marking.

Two main issues of interest:

- Right edge marking
- Some cases select a locative, but only for some types of nominals.

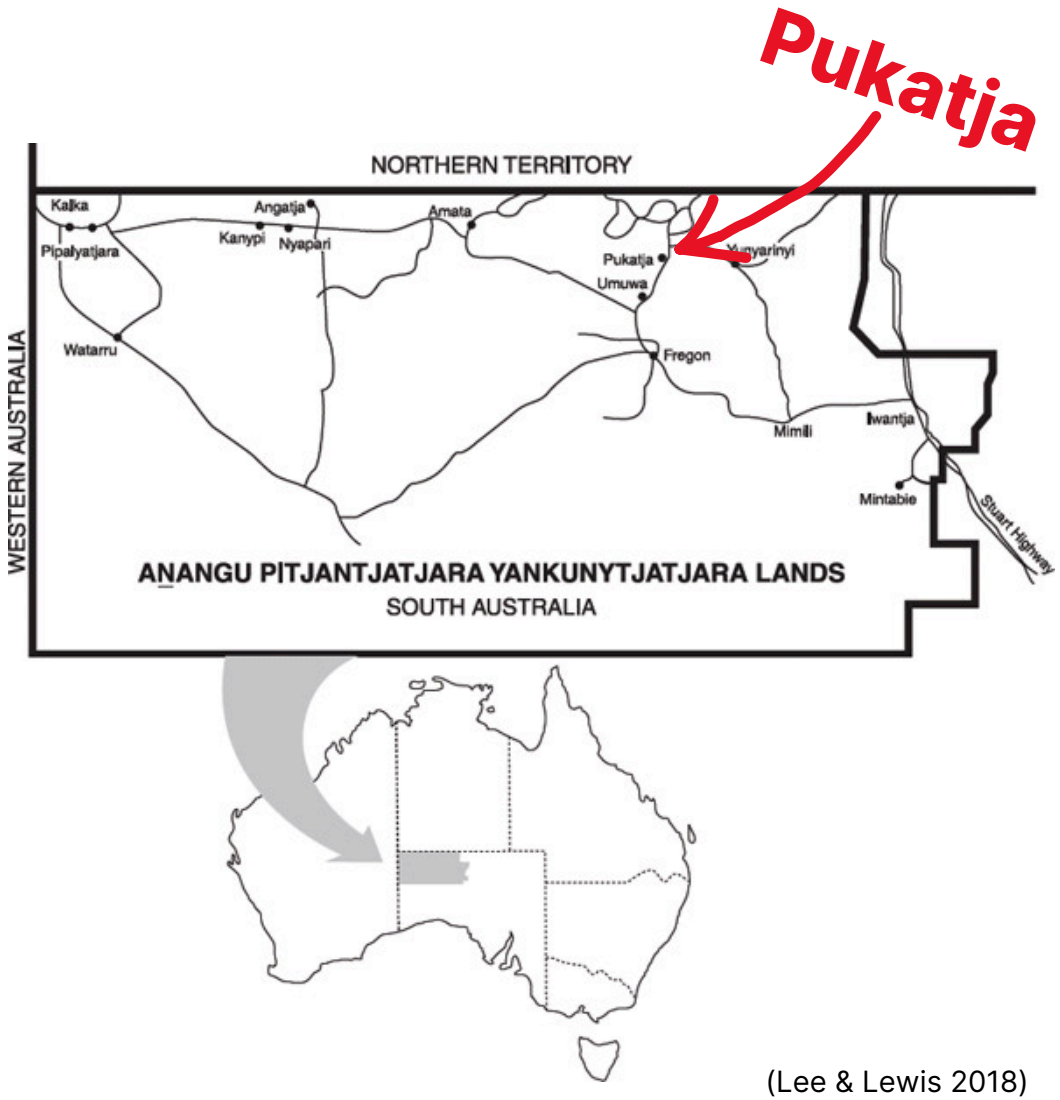
We use the formal framework of Lexical Functional Grammar (LFG) to think through the data and uncover some underlying generalisations.

Pitjantjatjara

Western Desert (Pama-Nyungan)

We build on previous descriptions, including Goddard (1985) and Bowe (1990), but some judgments vary slightly.

Thank you to all Aṉangu who have shared their language with me, in particular Inawinytji Stanley and Sandra Lewis.



(Lee & Lewis 2018)

		ERG	NOM	ACC	DAT/GEN	LOC	ALL	ABL	PERL
Common N	V-final	ngku	Ø	Ø	ku	ngka	kutu	nguṟu	wanu
	C-final	Tu	Ø	Ø	ku	Ta	kutu	nguṟu	wanu
Proper name	V-final	lu	nya	nya	ku	la	la-kutu	la-nguṟu	la-wanu
	C-final	Tu	nga	nga	ku	Ta	Ta-kutu	Ta-nguṟu	Ta-wanu
Pronoun	1sg	lu	lu	nya	ku	la	la-kutu	la-nguṟu	la-wanu
	3sg	ṟu	ṟu	nya	mpa	la	la-kutu	la-nguṟu	la-wanu
	other	Ø	Ø	nya	mpa	la	la-kutu	la-nguṟu	la-wanu

- ALL = towards, ABL = from, PERL = through
- Common N here includes nouns and various modifiers
- Split ergative system
- Different forms between common and proper names
- NOM/ACC are unmarked for common nouns, ERG/NOM for pronouns

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- Proper names and pronouns pattern together in the spatial cases. They are first marked with the locative before adding the spatial case marker. The spatial cases attach to bare common nouns.
- Morphophonological alternations (T = homorganic stop)
- Pronouns have more irregular, idiosyncratic forms.

In a **simple NP**, the head is always initial, followed by any number of modifiers.
Case is only marked on the final word:

1a. papa panya kulupa-ngku
dog ANAPH small-ERG
'That small dog' (SW20190610-02-LeafStory)

b. * papa-ngku panya kulupa-ngku
dog-ERG ANAPH small-ERG

Several **appositional constructions** have the same basic structure:
generic-specific construction
part-whole compounds
coordination (in limited circumstances)
appositive 'renaming' construction

The 3SG pronoun can be used to mark **definiteness**, also at the right edge:

2. kungka palu-ru
girl DEF-ERG
'The girl' (SW20190328-03-GuitarStory)

Relative clauses follow their head noun and are introduced by the anaphoric demonstrative *panya*. They consist of an S-like structure with a nominalised verb at the end.

This nominalised verb is marked for case, using the same forms of case markers as proper names.

This case marker tells you the case of the entire complex NP.

The head noun is *not* marked for case.

3.

wati	panya	nyina-nytja-lu
man	ANAPH	sit-NMLZ-ERG

‘That man who is sitting (ergative)’ (constructed)

There is also an **inclusory construction** consisting of two slots.

The first slot consists of a pronoun or one or more PNs, denoting a member of a set. The second slot consists of a pronoun denoting the superset.

Common nouns traditionally do not occur in this construction. Case must be marked on all elements.

4. palu-nya pula-nya
   3SG-ACC 3DU-ACC
   ‘Them two’ (SW20190328-02-MonsterStory)

5. Papa-nya pula-Ø
   Dog-NOM 3DU-NOM
   ‘They two including Dog’ (SW20190531-04-LeafStory)

Under **coordination**, case is obligatorily marked on both conjuncts:

6a. katja-ngku munu uṉṯalpa-ngku
son-ERG and daughter-ERG
‘The son and daughter’ (SW20190422-07-PinguCamping)

b. * katja munu uṉṯalpa-ngku
son and daughter-ERG

Except for the spatial cases, which can either be marked on both conjuncts, or at the right edge:

7a. pampa-kutu munu tjiḻpi-kutu
old.lady-ALL and old.man-ALL

b. pampa munu tjiḻpi-kutu
old.lady and old.man-ALL
‘Towards the old lady and old man’ (elicited)

When PNs, pronouns or relative clauses are coordinated and marked with spatial case, the locative is obligatorily marked on both conjuncts, even when the spatial case is only at the right edge:

8a. Mary-la-kutu munu Johnny-la-kutu
Mary-LOC-ALL and Johnny-LOC-ALL

b. Mary-la munu Johnny-la-kutu
Mary-LOC and Johnny-LOC-ALL

c. * Mary munu Johnny-la-kutu
Mary and Johnny-LOC-ALL
'Towards Mary and Johnny' (elicited)

The same applies to inclusory constructions. All elements must be marked with the locative, although the spatial case must be at the right edge:

9. Mimili-la Intalka-la tjana-la-kutu
Mimili-LOC Indulkana-LOC 3PL-LOC-ALL
'Towards Mimili, Indulkana, and other places' (Goddard 1985: 51)

Across these many different constructions we see a basic pattern:

Head-N ...N... N-case

Case markers come in various forms depending on the phonology and type of nominal – they seem morphological even though their positioning is at the edge of phrases.

Different case markers behave differently under coordination and in the inclusory construction. Ergative, locative, and so on are obligatorily marked on all elements, while the spatial cases can have wide scope.

These spatial cases attach to locative pronouns, proper names and nominalised verbs, but can only attach to bare common nouns.

How can we describe precisely what's going on at the morphology-syntax interface using LFG?

Problem 1: Edge inflection

Are case markers clitics and therefore represented syntactically? (Perhaps following Butt & King's (2004) analysis of Urdu.)

Not by any usual definition of clitic (e.g. Zwicky & Pullum 1983, among many others). They seem like inflectional morphology:

- stem selection
- morphophonological idiosyncrasies
- no wide scope
- often no extra morphology is added

We have a clear case of **edge inflection**. This is in contrast to **phrasal affixation**.

(See e.g. Anderson et al. 2006, Börjars et al. 2013 for a discussion of the difference.)

> "In phrasal affixation the whole phrase is regarded as the target of a morphological process. In edge inflection a designated word … is inflected and the value of the inflectional feature is then associated with the phrase as a whole."
>
> (Spencer & Luís 2012: 294)

Problem 1: Edge inflection

> “Morphosyntactic edge phenomena, in contrast to prosodic edge phenomena, appear to have been somewhat neglected in LFG, and there appears to be no off-the-peg solution even for a straightforward case in which the first word of a phrase is targeted.”
>
> (Börjars & Payne, 2013)

(But cf. Simpson’s (1991) analysis of Warlpiri)

Edge inflection is more developed in Optimality Theory (e.g. Anderson et al. 2006) and HPSG (e.g. Samvelian 2007), which adds an EDGE feature on right- or left-most words.

Börjars & Payne suggest borrowing the EDGE features used to describe prosodic structure in LFG.

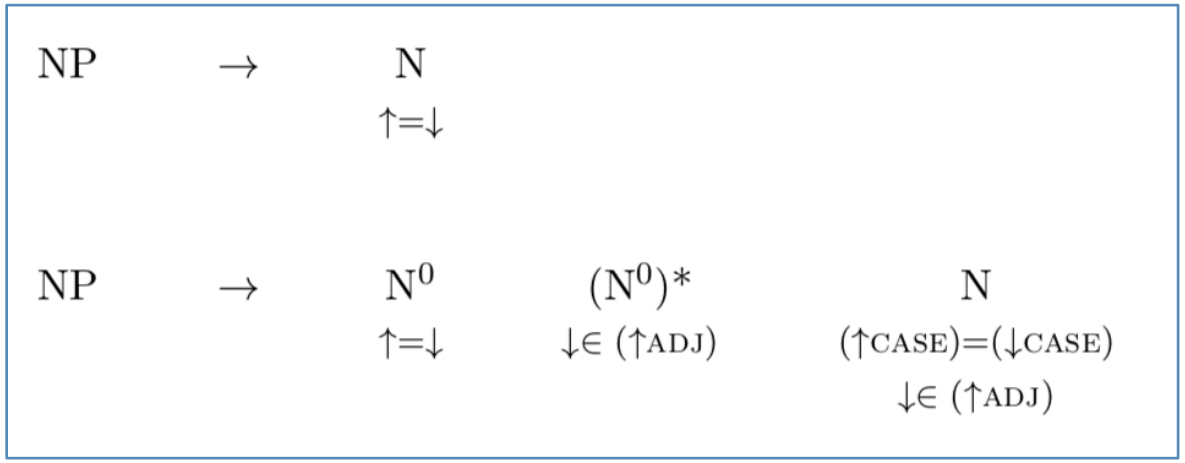
Problem 1: Edge inflection

Our NP rule needs to account for the fact that head of the phrase is the first word, but case is only attached to the last word, which is an adjunct (using Constructive Case, Nordlinger 1998).

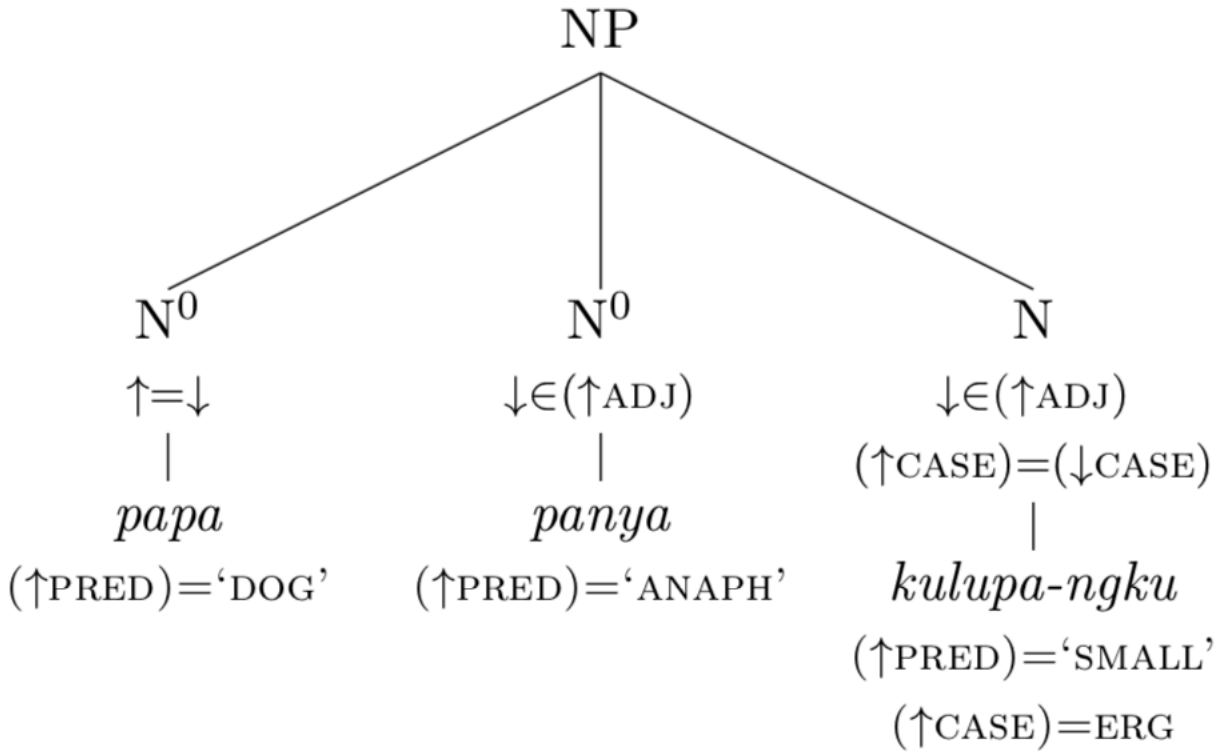
papa panya kulupa-ngku
dog ANAPH small-ERG
'That small dog' (SW20190610-02-LeafStory)

We usually expect the features of the head to be associated with the features of the phrase. How do we prevent a case-marked noun appearing in the head position?

* papa-ngku panya kulupa-ngku
dog-ERG ANAPH small-ERG
'That small dog'



Our solution: these 'caseless nominals' are N^0 (equivalent to N^{-1} in Simpson, 1991). They need to go through some morphological operation which adds case before they become an N.



$$\begin{array}{lcl} \text{NP} & \rightarrow & \text{N} \\ & & \uparrow=\downarrow \end{array}$$

$$\begin{array}{lcccc} \text{NP} & \rightarrow & \text{N}^0 & (\text{N}^0)^* & \text{N} \\ & & \uparrow=\downarrow & \downarrow\in(\uparrow\text{ADJ}) & (\uparrow\text{CASE})=(\downarrow\text{CASE}) \\ & & & & \downarrow\in(\uparrow\text{ADJ}) \end{array}$$

$$\left[\begin{array}{ll} \text{PRED} & \text{'DOG'} \\ \text{CASE} & \text{ERG} \\ \text{ADJ} & \left\{\begin{bmatrix} \text{PRED} & \text{'SMALL'} \\ \text{CASE} & \text{ERG} \end{bmatrix}, \begin{bmatrix} \text{PRED} & \text{'ANAPH'} \end{bmatrix}\right\} \end{array}\right]$$

Papa panya kulupa-ngku
'That small dog (ergative)'

Problem 2: Spatial Ps and their objects

tjilpi=kutu
old.man=ALL
'towards the old man'

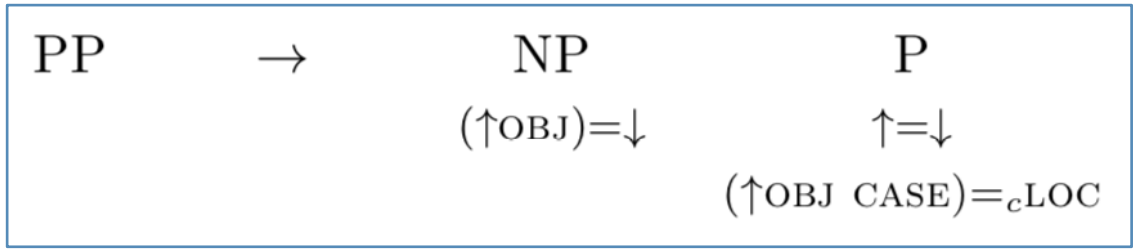
palu-la=kutu
3SG-LOC=ALL
'towards him'

Spatial cases are straightforward clitics:
- Prosodically dependent
- Not independent words elsewhere
- Wide scope over coordination
- No morphophonological alternations

We analyse them as a P heading a PP, selecting a locative NP object.

Spatial cases selecting locative case is common cross-linguistically.

(See e.g. Svenonius 2010, 2012, van Riemsdijk & Huybregts 2007)



The data shows us that common Ns can behave as locative even without any added locative marking.

How do we ensure the locative *-ngka* doesn't show up?

* tjilpi-ngka=kutu
old.man-LOC=ALL
'towards the old man'

Problem 2: Spatial Ps and their objects

Bare nouns have two forms with a locative case feature. One has a built in grammatical function assigned along with case, one does not.

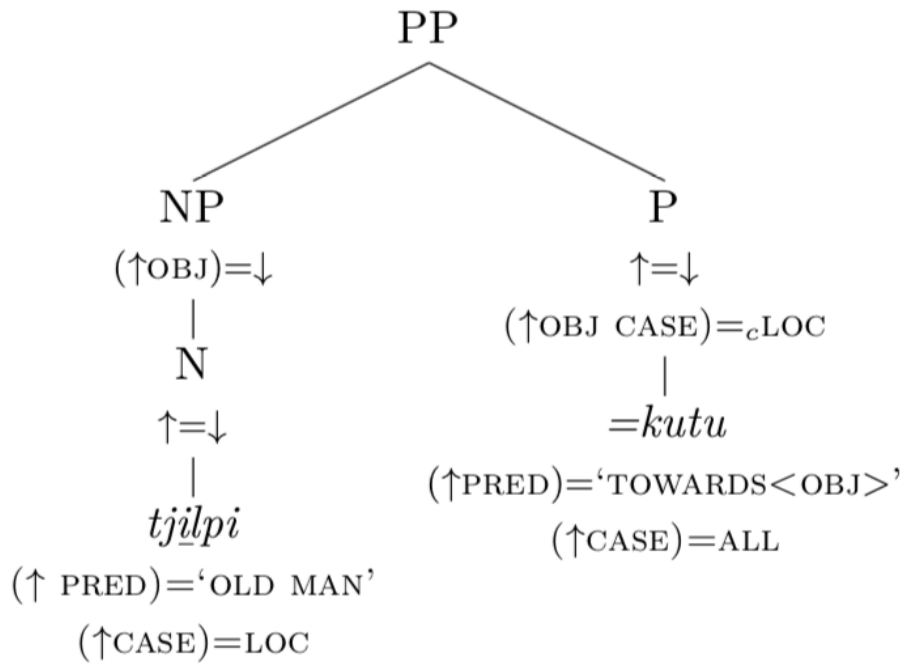
TJIL̲PI N^0 PRED=‘OLD MAN’

can become either:

TJIL̲PINGKA N PRED=‘OLD MAN’
CASE=LOC
(ADJ(ADJ)∈↑)

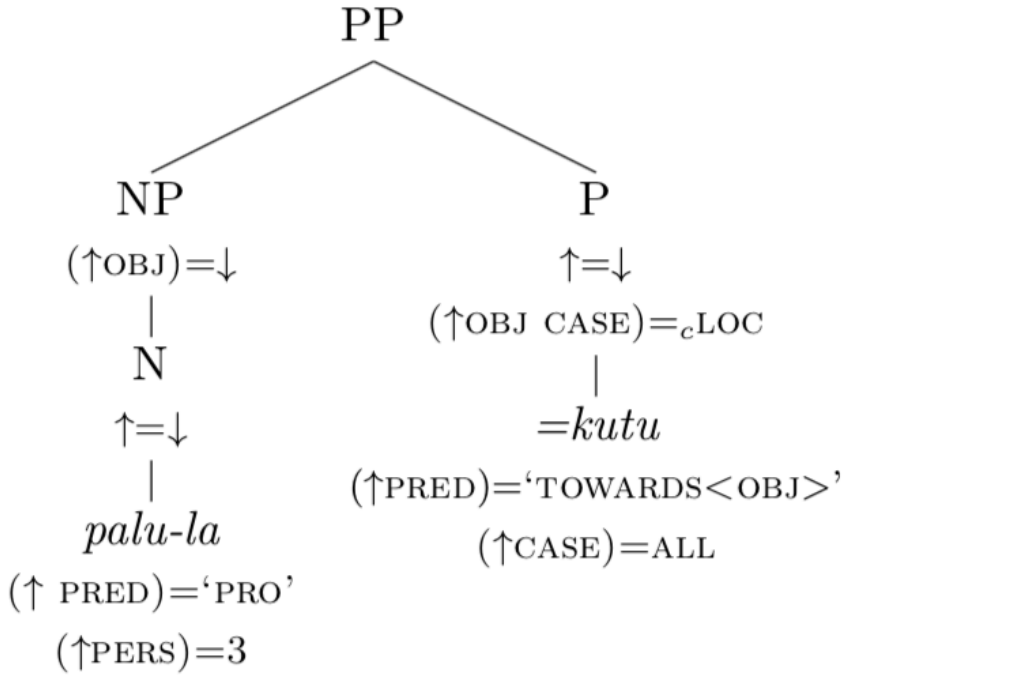
or:

TJIL̲PI N PRED=‘OLD MAN’
CASE=LOC



$$\begin{bmatrix} \text{PRED} & \text{'TOWARDS <OBJ>'} \\ \text{CASE} & \text{ALL} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'OLD MAN'} \\ \text{CASE} & \text{LOC} \end{bmatrix} \end{bmatrix}$$

tjilpi=kutu
'Towards the old man'



$$\begin{bmatrix} \text{PRED} & \text{'TOWARDS <OBJ>'} \\ \text{CASE} & \text{ALL} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{PRO} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \\ \text{CASE} & \text{LOC} \end{bmatrix} \end{bmatrix}$$

palu-la=kutu
'Towards him/her'

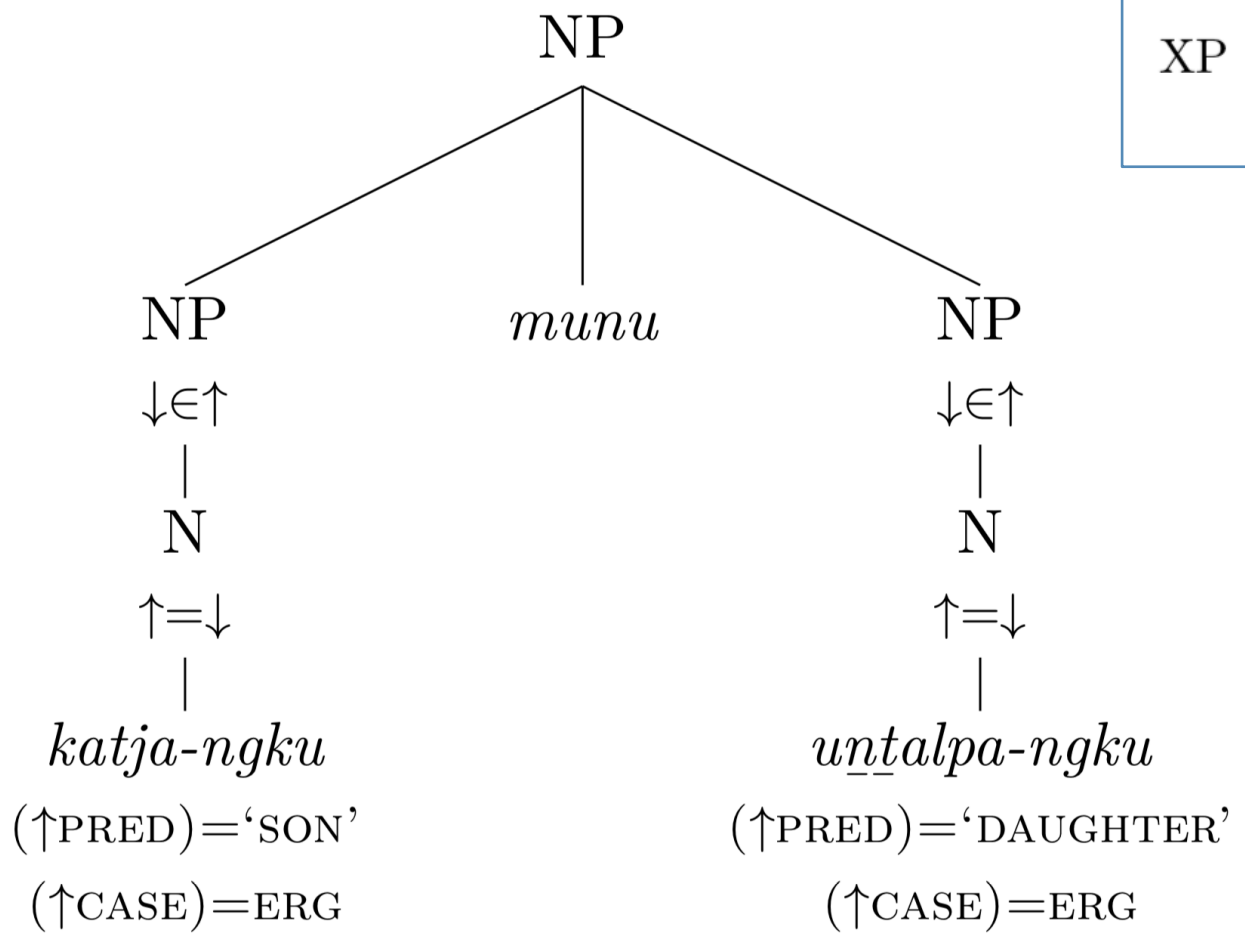
Coordination

NPs and PPs can be coordinated in the same way, with or without *munu* depending on semantic factors.

We follow Sadler & Nordlinger's (2010) analysis of juxtaposition in Australian languages, such that the same structures maps onto different meanings: coordination, apposition, and inclusory constructions.

Case is a distributive feature (Dalrymple & Kaplan 2000), so each coordinated NP has the same case value as its higher NP.

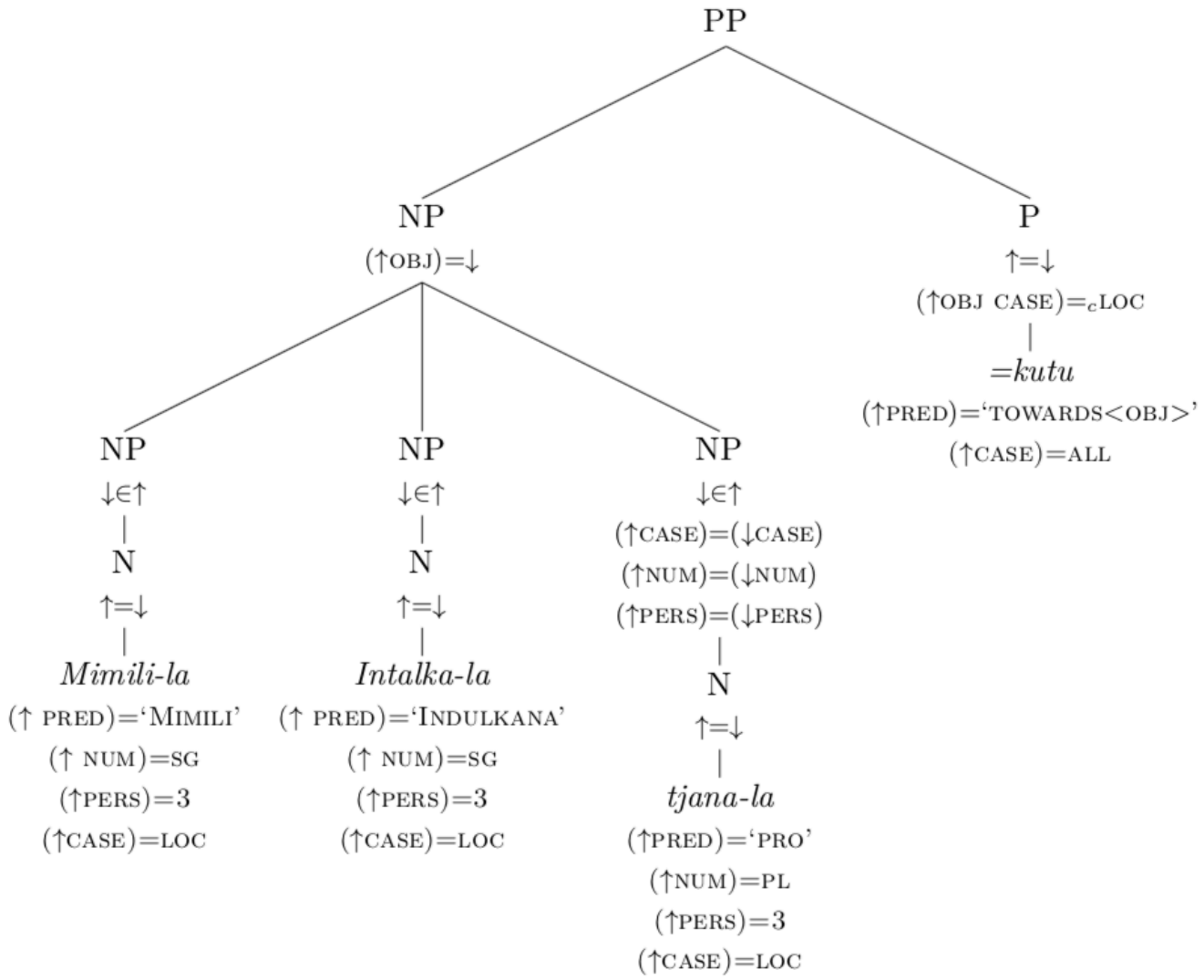
$$\mathrm{XP} \quad \rightarrow \quad \underset{\downarrow \in \uparrow}{\mathrm{XP}+} \quad (munu) \quad \underset{\downarrow \in \uparrow}{\mathrm{XP}}$$



$$\mathrm{XP} \rightarrow \underset{\downarrow\in\uparrow}{\mathrm{XP}+} \quad (munu) \quad \underset{\downarrow\in\uparrow}{\mathrm{XP}}$$

$$\begin{bmatrix} \text{CASE} & \text{ERG} \\ \left\{ \begin{bmatrix} \text{PRED} & \text{'SON'} \\ \text{CASE} & \text{ERG} \end{bmatrix}, \begin{bmatrix} \text{PRED} & \text{'DAUGHTER'} \\ \text{CASE} & \text{ERG} \end{bmatrix} \right\} \end{bmatrix}$$

katja-ngku munu un̲t̲alpa-ngku
'Son and daughter (ergative)'



$$\begin{bmatrix} \text{PRED} & \text{'TOWARDS <OBJ>'} \\ \text{CASE} & \text{ALL} \\ \text{OBJ} & \begin{bmatrix} \text{NUM} & \text{PL} \\ \text{PERS} & 3 \\ \text{CASE} & \text{LOC} \end{bmatrix} \\ & \left\{ \begin{bmatrix} \text{PRED} & \text{'PRO'} \\ \text{PERS} & 3 \\ \text{NUM} & \text{PL} \\ \text{CASE} & \text{LOC} \end{bmatrix} \right. \\ & \left. \begin{bmatrix} \text{PRED} & \text{'MIMILI'} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \\ \text{CASE} & \text{LOC} \end{bmatrix} \right. \\ & \left. \begin{bmatrix} \text{PRED} & \text{'INDULKANA'} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \\ \text{CASE} & \text{LOC} \end{bmatrix} \right\} \end{bmatrix}$$

Mimili-la Intalka-la tjana-la=kutu
'To Mimili, Indulkana, and those places'

Summary

We find three patterns of case marking which we analyse as:

1. Postpositional clitics forming a PP.
2. Morphological edge inflection which specifies grammatical function.
3. 'Defective' locative case marking with no GF.

How does this work formally?

- Non-final nominals are N^0.
- Morphological addition of case turns these into Ns, with or without a grammatical function included.

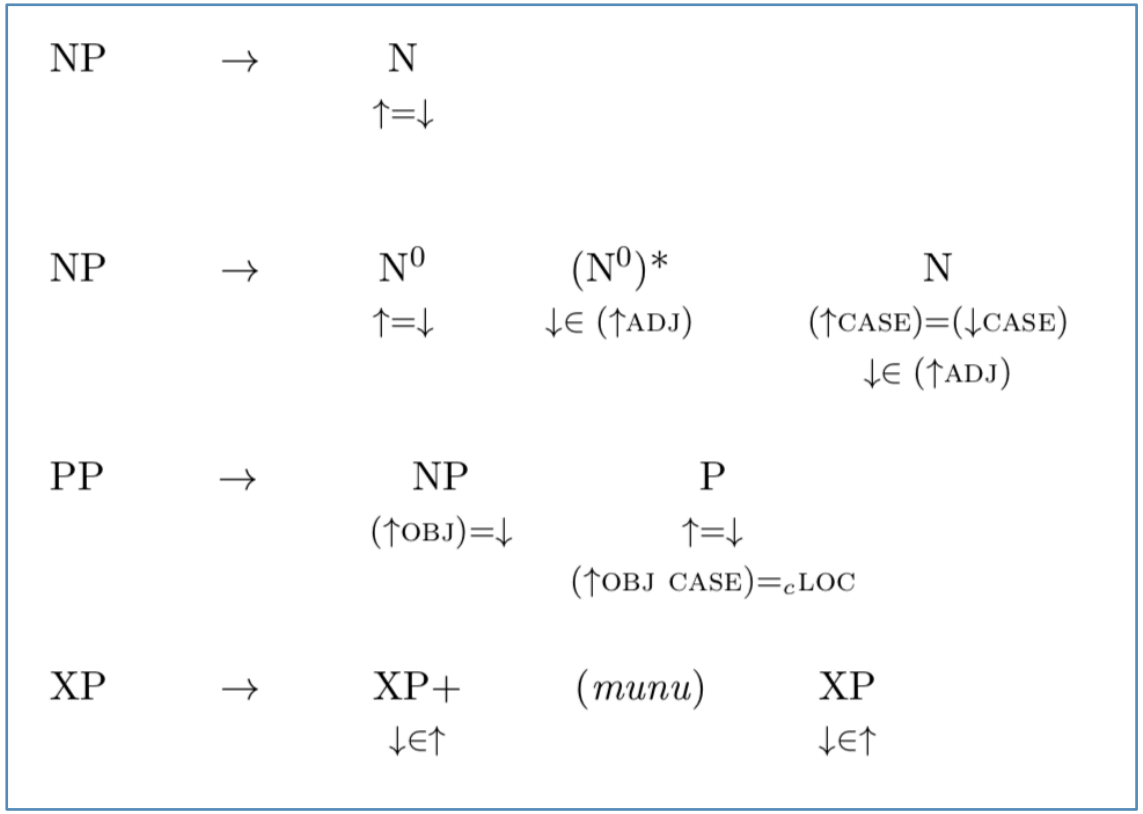
NP	→	N ↑=↓		
NP	→	N^0 ↑=↓	$(N^0)^*$ ↓∈ (↑ADJ)	N (↑CASE)=(↓CASE) ↓∈ (↑ADJ)
PP	→	NP (↑OBJ)=↓	P ↑=↓ (↑OBJ CASE)=$_c$LOC	
XP	→	XP+ ↓∈↑	*(munu)*	XP ↓∈↑

Conclusion

Using a formal framework such as LFG helps us think through many different constructions in detail.

We see various interactions between morphology and syntax, and the formalisation helps us to make that explicit.

Although the system does present a complex picture, we can generalise over the data with quite a straightforward analysis, using existing tools.



Thanks!

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