Agreement in Archi: An LFG Perspective

Louisa Sadler

University of Essex

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LFG Syntax

- two co-present (simultaneous) levels: representation at each level is motivated by factors internal to that level, observing lexical integrity and monotonicity
- levels related by a (onto) mapping function
- c-structure: represents dominance and precedence relations, accommodating a range of difference phrase structure models
- f-structure: represents grammatical relations and predication, morphosyntactic properties, local and non-local dependencies
- f-structures are the main input to semantics
(1) Kim yawned

\[
\begin{array}{c}
\text{IP} \\
\text{NP} \\
\text{(↑ SUBJ) = ↓} \\
\downarrow \\
\text{Kim} \\
\uparrow = \downarrow \\
\text{VP} \\
\uparrow = \downarrow \\
\text{V} \\
\uparrow = \downarrow \\
yawned
\end{array}
\]

\[
\begin{array}{c}
PRED \quad ‘YAWN⟨SUBJ⟩’ \\
TENSE \quad PAST \\
\text{SUBJ} \\
\quad \begin{bmatrix}
\text{NUM} & \text{SG} \\
\text{PERS} & 3 \\
PRED & ‘KIM’
\end{bmatrix}
\end{array}
\]
Analytic Verbal Constructions: Aux Feature

(2) Kim has yawned

IP

NP

(↑ SUBJ) = ↓

I'

Kim

↑ = ↓

I

↑ = ↓

NP

I

↑ = ↓

VP

has

V

↑ = ↓

yawned

PRED

‘YAWN⟨SUBJ⟩’

TENSE

PRES

ASP

PERF

SUBJ

NUM

SG

PERS

3

PRED

‘KIM’
Analytic Verbal Constructions: Aux PRED

\[
\begin{array}{c}
\text{NP} \\
\text{Kim} \\
\text{is} \\
\text{yawning}
\end{array}
\]

\[
\begin{array}{c}
\text{VP} \\
(↑ \text{XC}) = \downarrow \\
\text{is} \\
\text{yawning}
\end{array}
\]

\[
\begin{array}{c}
\text{I} \\
↑ = \downarrow \\
\text{I'} \\
(↑ \text{SUBJ}) = \downarrow \\
\text{IP}
\end{array}
\]

\[
\begin{array}{c}
\text{PRED} '\text{BE} < \text{XCOMP} > \text{SUBJ}' \\
\text{TENSE} \text{ PRES} \\
\text{SUBJ} \left[ \begin{array}{c} \\
\text{PRED} '\text{KIM}' \\
\text{NUM} \text{ SG} \\
\text{PERS} 3 \end{array} \right] \end{array}
\]

\[
\begin{array}{c}
\text{XCOMP} \left[ \begin{array}{c} \\
\text{ASP} \text{ PROG} \\
\text{PRED} '\text{YAWN}< \text{SUBJ} >' \\
\text{SUBJ} \end{array} \right] \end{array}
\]
Example Lexical Entries

(3) was: I  \( (↑ \text{TENSE}) = \text{PAST} \)
\( (↑ \text{PRED}) = '\text{BE}<\text{XCOMP}> \text{SUBJ}' \)
\( (↑ \text{SUBJ}) = (↑ \text{XCOMP SUBJ}) \)
\( \text{VP} \in \text{CAT} (↑ \text{XCOMP}) \Rightarrow (↑ \text{XCOMP ASP}) =_c \text{PROG} \)

(4) has: I  \( (↑ \text{TENSE}) = \text{PRES} \)
\( \text{VP} \in \text{CAT} (↑) \Rightarrow (↑ \text{ASP}) =_c \text{PERF} \)

(5) taken: V  \( (↑ \text{PRED}) = '\text{YAWNED}<\text{SUBJ}>' \)
\( (↑ \text{ASP}) = \text{PERF} \)

Discussion for English: see Falk (2008)
## Separation of Morphology and Syntax

<table>
<thead>
<tr>
<th>Category</th>
<th>MFeat</th>
<th>Syn Info</th>
</tr>
</thead>
</table>
| Attr Adj | {Fem, Sg} | \[
\begin{align*}
((\text{ADJ} \uparrow) \text{GEND}) &= \text{FEM} \\
((\text{ADJ} \uparrow) \text{NUM}) &= \text{SG}
\end{align*}
\] |
| Pred Adj | {Fem, Sg} | \[
\begin{align*}
(\uparrow \text{SUBJ GEND}) &= \text{FEM} \\
(\uparrow (\text{SUBJ NUM}) &= \text{SG}
\end{align*}
\] |
| Noun     | {Fem, Sg} | \[
\begin{align*}
(\uparrow \text{GEND}) &= \text{FEM} \\
(\uparrow \text{NUM}) &= \text{SG}
\end{align*}
\] |
Agreement

• Agreement is syntactically mediated covariation in form

• syntactic agreement typically involves predicate-argument and head-modifier relations

• syntactic agreement holds at the level of f-structure (internal syntax)
Hybrid Behaviour

Hybrid behaviour of a single agreement controller motivates different sets of agreement features - INDEX and CONCORD.

*This boy and girl have* become skilled at setting the places for their classmates at snacktime. (http://www.edvid.com/infant.asp)

(Wechsler and Zlatić, 2000; King and Dalrymple, 2004)
(6) this boy and girl  

$$\text{this: } (\uparrow \text{CONCORD}\ \text{NUM}) = \text{SG}$$

```
(\text{SPEC}\ 'THIS'
\text{INDEX}\ [\text{NUM}\ \text{PL}]
\begin{cases}
\text{PRED}\ 'BOY'
\text{CONCORD}\ [\text{NUM}\ \boxed{\text{SG}}]
\text{INDEX}\ [\text{NUM}\ \text{SG}]
\end{cases}
\begin{cases}
\text{PRED}\ 'GIRL'
\text{CONCORD}\ [\text{NUM}\ \boxed{\text{SG}}]
\text{INDEX}\ [\text{NUM}\ \text{SG}]
\end{cases})
```
Background

Agreement in the Nominal Domain

Agreement in the Clausal Domain

Biabsolutive Constructions
Head Modifier Agreement

- attributives: agreement in \textsc{num} and \textsc{gen}
- genitive pronouns: a subset show agreement in \textsc{num} and \textsc{gen}
- demonstratives: agreement in \textsc{num} and \textsc{gen}
- numerals: agreement in \textsc{num} and \textsc{gen}
- quantifiers: no agreement
- nominal-adjectives: no agreement
- genitive nouns: no agreement
Attributives

(7) mu-tːu  \[\text{bošor}\]
be.beautiful-ATTR.I.SG  man(I)[SG.ABS]
handsome man

(8) \[\text{mu-tːu (↑ PRED) = ‘BEAUTIFUL’}\]
\[
\begin{align*}
&\left( \left( \text{ADJ} \in (↑) \right) \text{NUM} \right) = \text{SG} \\
&\left( \left( \text{ADJ} \in (↑) \right) \text{GEND} \right) = \text{I}
\end{align*}
\]
Attributives

\[
\begin{array}{l}
\text{PRED} \quad \text{‘MAN’} \\
\text{CASE} \quad \text{ABS} \\
\text{NUM} \quad \text{SG} \\
\text{PERS} \quad 3 \\
\text{GEND} \quad \text{I} \\
\text{ADJ} \quad \{ [ \text{PRED} \quad \text{‘BEAUTIFUL’} ] \}
\end{array}
\]
Notational Points

• ADJ is a set-valued feature: $\in$ may be used in the path in the f-descriptions $(\downarrow \in (\uparrow \text{ADJ}) \equiv (\uparrow \text{ADJ} \in) = \downarrow)$

• the formalism supports both Outside-In $(\uparrow GF)$ and Inside-Out $(GF \uparrow)$ expressions.
Attributives

(9) iškol-li-s  χir-t:u-t
school(IV)-SG.OBL-DAT behind-ATTR-IV.SG
nokł
house(IV).[SG.ABS]
the house behind the school

(10) χir-t:u-t
    (↑ PRED) = ‘BEHIND<OBJ>’
    (↑ OBJ CASE) =c DAT
    ((ADJ ∈ ↓) NUM) = SG
    ((ADJ ∈ ↓) GEND) = IV
Background

Agreement in the Nominal Domain

Agreement in the Clausal Domain

Biabsolutive Constructions

References

Attributives

\[
\begin{align*}
\text{PRED} & \quad \text{‘HOUSE’} \\
\text{CASE} & \quad \text{ABS} \\
\text{NUM} & \quad \text{SG} \\
\text{GEND} & \quad \text{IV} \\
\end{align*}
\]
Some Pronominal (Genitive) Possessors

first person genitive pronouns as modifiers agree in number and gender with the head noun, others do not

(11) w-is  
    I.SG-1SG.GEN brother(I)[ABS.SG]
    my brother

(12) d-is  
    II.SG-1SG.GEN sister(II)[ABS.SG]
    my sister
Pronominal Possessors

\[
\begin{bmatrix}
\text{PRED} & \text{‘BROTHER\langle POSS\rangle’} \\
\text{CASE} & \text{ABS} \\
\text{PERS} & 3 \\
\text{NUM} & \text{SG} \\
\text{GEND} & \text{I} \\
\end{bmatrix}
\]

\[
\begin{bmatrix}
\text{CASE} & \text{GEN} \\
\text{PRED} & \text{‘PRO’} \\
\text{NUM} & \text{SG} \\
\text{PERS} & 1 \\
\end{bmatrix}
\]
Pronominal Possessors

(13) \textit{w-is (my)}

\[
\begin{align*}
(\uparrow \text{PRED}) &= \text{‘PRO’} \\
(\uparrow \text{NUM}) &= \text{SG} \\
(\uparrow \text{PERS}) &= 1 \\
(\uparrow \text{CASE}) &= \text{GEN} \\
( ( ( \text{POSS} \uparrow ) \text{NUM}) &= \text{SG} \\
( ( ( \text{POSS} \uparrow ) \text{GEND}) &= \text{I} \\
\end{align*}
\]

Partiality

we do not have to specify any sort of null or default agreement for the non-agreeing pronominals: the morphology should produce all and only the correctly inflected forms
Deverbal Attributives

(14) \( \chi_{on}^{\text{III}} \) b-a\(<r>ca-t:ur \)

\( \text{cow(III)[SG.ABS]} \) III.SG-<IPFV>milk-IPFV-ATTR-II.SG

lo
girl(II)[SG.ABS]

the girl who is milking the cow
Deverbal Attributives

\[
\begin{array}{c}
\text{PRED} \quad \text{‘GIRL’} \\
\text{CASE} \quad \text{ABS} \\
\text{NUM} \quad \text{SG} \\
\text{GEND} \quad \text{II} \\
\end{array}
\]

\[
\begin{array}{c}
\text{OBJ} \quad \left\{ \\
\text{SUBJ} \quad \left[ \\
\text{PRED} \quad \text{‘PRO’} \\
\text{CASE} \quad \text{ABS} \\
\text{NUM} \quad \text{SG} \\
\text{GEND} \quad \text{III} \\
\right. \\
\text{PRED} \quad \text{‘MILK< SUBJ, OBJ> ’} \\
\right. \\
\right\}
\]

(simplified)
Deverbal Attributives

(15) $b-a<r>ca-t:ur$  
($\uparrow$ PRED) = ‘Milk$<$SUBJ, OBJ$>$’  
($\uparrow$ OBJ CASE) = ABS  
($\uparrow$ OBJ NUM) = SG  
($\uparrow$ OBJ GEND) = III  

| ( ( ADJ $\in$ $\uparrow$ ) NUM ) = SG  
| ( ( ADJ $\in$ $\uparrow$ ) GEND ) = II |
Templates for Agreement Generalisations

• Templates are named functional descriptions, that is, named collections of equations.

• They allow generalisations to be stated and can be used as abbreviatory devices and called in lexical entries.

• They can also be called in c-structure rules, but we make no use of this here.

• Templates can be parameterised, so that they take an argument.
Using Templates: Gender and Number

(16) \( \text{i.sg}(P) \equiv (P \text{ GEND}) = \text{I} \\
     (P \text{ NUM}) = \text{SG} \)

(17) \( \text{II.sg}(P) \equiv (P \text{ GEND}) = \text{II} \\
     (P \text{ NUM}) = \text{SG} \)

(18) \( \text{III.sg}(P) \equiv (P \text{ GEND}) = \text{III} \\
     (P \text{ NUM}) = \text{SG} \)

(19) \( \text{IV.sg}(P) \equiv (P \text{ GEND}) = \text{IV} \\
     (P \text{ NUM}) = \text{SG} \)
# Using Agreement Templates

<table>
<thead>
<tr>
<th>Category</th>
<th>Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pronominal Possessors</td>
<td>@I.SG(POSS ↑)</td>
</tr>
<tr>
<td>Attributives</td>
<td>@I.SG(ADJ ∈ ↑)</td>
</tr>
<tr>
<td>Demonstratives</td>
<td>@I.SG(↑)</td>
</tr>
</tbody>
</table>
Background

Agreement in the Nominal Domain

Agreement in the Clausal Domain

Biabsolutive Constructions
Case Assignment

- transitive verbs show Ergative Absolutive alignment
- intransitive verbs take an Absolutive argument
- some verbs show Dative Absolutive alignment

- predicates (verbs, predicate adjectives) agree with the Absolutive argument
- predicates inflect for \textit{NUM} and \textit{GEN} of the agreement controller
Absolutive Controller

(20) buwa d-awf'a
mother(II)[SG.ABS] II.SG-come.PFV
Mother came

(21) zari nofš darc'-li-r-š
1SG.ERG horse(III)[SG.ABS] post-OBL.SG-CONT-ALL
e(b)t’ni
(III.SG)tie.PFV
I tied the horse to the post

(22) to-w-mi-s Ajša d-ak:u
that.one-1.SG-OBL.SG-DAT Aisha(II)[SG.ABS] II.SG-see.PFV
He has seen Aisha
Morphological Ergativity

In a morphologically ergative language the obliqueness ordering of grammatical relations in the basic verbal voice matches the obliquesness ordering at argument structure, but case marking does not reflect the obliqueness ordering of grammatical functions.

<table>
<thead>
<tr>
<th>Arg1(TR)</th>
<th>Arg1(INT)</th>
<th>Arg2(TR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>S</td>
<td>P</td>
</tr>
<tr>
<td>SUBJ</td>
<td>SUBJ</td>
<td>OBJ</td>
</tr>
<tr>
<td>ERG</td>
<td>ABS</td>
<td>ABS</td>
</tr>
</tbody>
</table>
Syntactic Ergativity

In a syntactically ergative language the obliqueness ordering of grammatical relations in the basic verbal voice does not match the obliquesness ordering at argument structure (inverse mapping)

(Manning, 1996)
Syntactic or Morphological Ergativity in Archi?

- Does the Absolutive Argument correspond to the most prominent surface grammatical function or not?

- Evidence from other syntactic phenomena show that the argument to function mapping is not inverse (hence $\text{Arg1} = \text{SUBJ}$) (morphological ergativity)

- However, agreement is syntactically ergative (controlled by S/P (ABS) argument)
Intransitive Verb

(23) $d\text{-}aw\text{ŋ}a$  
$(\uparrow \text{PRED}) = \text{‘CAME}<\text{SUBJ}>'$  
$(\uparrow \text{TNS}) = \text{PFV}$  
$(\uparrow \text{SUBJ CASE}) = \text{ABS}$  
$(\uparrow \text{SUBJ GEND}) = \text{II}$  
$(\uparrow \text{SUBJ NUM}) = \text{SG}$
Transitive Verb: Absolutive Object

(24) e(b)t’ni/tied

\[
\begin{align*}
(\uparrow \text{PRED}) &= \text{‘TIE}(\text{SUBJ, OBJ})\text{’} \\
(\uparrow \text{TNS}) &= \text{PFV} \\
(\uparrow \text{SUBJ CASE}) &= \text{ERG} \\
(\uparrow \text{OBJ CASE}) &= \text{ABS} \\
(\uparrow \text{OBJ GEND}) &= \text{III} \\
(\uparrow \text{OBJ NUM}) &= \text{SG}
\end{align*}
\]
Background

Agreement in the Nominal Domain

Agreement in the Clausal Domain

Biabsolutive Constructions

References

\[
\begin{array}{c}
\text{PRED} \quad \text{COME}(\text{SUBJ})' \\
\text{PRED} \quad \text{MOTHER'} \\
\text{NUM} \quad \text{SG} \\
\text{GEND} \quad \text{II} \\
\text{PERS} \quad 3 \\
\text{CASE} \quad \text{ABS} \\
\text{SUBJ} \\
\end{array}
\]

\[
\begin{array}{c}
\text{PRED} \quad \text{TIE}(\text{SUBJ}, \text{OBJ})' \\
\text{PRED} \quad \text{HORSE'} \\
\text{NUM} \quad \text{SG} \\
\text{GEND} \quad \text{III} \\
\text{CASE} \quad \text{ABS} \\
\text{OBJ} \\
\end{array}
\]

\[
\begin{array}{c}
\text{PRED} \quad \text{PRO'} \\
\text{NUM} \quad \text{SG} \\
\text{PERS} \quad 1 \\
\text{CASE} \quad \text{ERG} \\
\text{SUBJ} \\
\end{array}
\]
Agreement Templates

Intransitive Verb

(25) $d$-awfa  \((\uparrow \text{PRED}) = \text{CAME}<\text{SUBJ}>\)  
\@II.SG(\uparrow \text{SUBJ})

Transitive Verbs (EA and DA)

(26) $e(b)t’ni/tied$  \((\uparrow \text{PRED}) = \text{TIE}<\text{SUBJ OBJ}>\)  
\@III.SG(\uparrow \text{OBJ})
Using Pivot

- Falk (2006) proposes use of a syntactic PIVOT in f-structure representations

- PIV has language-specific assignment: in NOM-ACC languages it is identified with $\hat{GF}$ (highest function, SUBJ)

- in cases of syntactic ergativity, it denotes $\hat{GF}$ of intransitives and OBJ of transitives

- Belyaev (2013) proposes that PIV is relevant for (some) agreement patterns in Dargwa
Background

Agreement in the Nominal Domain

Agreement in the Clausal Domain

Biabsolutive Constructions

References

\[
\text{PRED} \quad \text{\textasciitilde COME\langle\text{SUBJ}\rangle}
\]

\[
\begin{align*}
\text{SUBJ} & \quad \text{PRED} \quad \text{\textasciitilde MOTHER}\rangle \\
& \quad \text{NUM} \quad \text{SG} \\
& \quad \text{GEND} \quad \text{II} \\
& \quad \text{PERS} \quad 3 \\
& \quad \text{CASE} \quad \text{ABS}
\end{align*}
\]

\[
\text{PIV} \quad [ ]
\]

\[
\begin{align*}
\text{OBJ} & \quad \text{PRED} \quad \text{\textasciitilde TIE\langle\text{SUBJOB}\rangle}\rangle \\
& \quad \text{PRED} \quad \text{\textasciitilde HORSE}\rangle \\
& \quad \text{NUM} \quad \text{SG} \\
& \quad \text{GEND} \quad \text{III} \\
& \quad \text{CASE} \quad \text{ABS}
\end{align*}
\]

\[
\begin{align*}
\text{SUBJ} & \quad \text{PRED} \quad \text{\textasciitilde PRO}\rangle \\
& \quad \text{NUM} \quad \text{SG} \\
& \quad \text{PERS} \quad 1 \\
& \quad \text{CASE} \quad \text{ERG}
\end{align*}
\]

\[
\text{PIV} \quad [ ]
\]
Controllers and C-structure

Controllers do not have to be overt NPs in the c-structure and can also be UDC fillers. These follow from an f-structure approach.

(27) jamu-m porma-li-t
    this-III.SG form(III)-SG.OBL-SUP
    a<r>χu-li, e<r>χ:u zon
    lie.down<II.SG>.PFV.CVB remain<II.SG>.PFV 1SG.ABS
Having lain down in this way, I stayed (there).

(28) [kwi] χuwt:i je-b
    who.SG.ABS [I.SG]go.POT this.PL-PL[ABS]
    a<b>ˇca-s
    <I/II.PL>kill-FIN
Who will go to kill them?
Other Agreement Targets

- a small set of first person pronominal forms show agreement with the absolutive argument in the clause

- some adverbial elements (and a postposition) also show agreement with the absolutive argument

- lexically driven approach: some elements show agreement with the PIV
Ergative 1st Inclusive Pronouns

(29) nena\textless{}b\textgreater{}u \quad \textit{hanžugur} \quad \textit{Yummar} \\
\textit{< III.SG>} \textit{1PL.INCL.ERG} \quad \textit{how} \quad \textit{life(III)[ABS.SG]} \\
b-a\textless{}r\textgreater{}ča-r? \\
\textit{III.SG-<IPFV>} \textit{carry.out-IPFV} \\
...how (should) we spend our life?

agreement target is \textit{SUBJ}, controller is absolutive \textit{OBJ} argument
Genitive 1st Person Pronouns

(30) b-is duχriq\textsuperscript{f} \chi^{f}\text{on} \\
III.SG-1SG.GEN village(IV).IN cow(III)[SG.ABS] \\
b-i \\
III.SG-be.PRES \\
I have a cow in the village
Dative 1st Person Pronouns

(31) to-r-mi b-ez χifošon
to-2SG-3SG-ERG 3SG-1SG.DAT χifošon
that.1SG-ERG 3SG-1SG.DAT χifošon

a(b)u
(III.SG)make.PFV
She made a dress for me

The agreement target is the benefactive OBL, controller is the absolutive OBJ argument
Controller as Non-overt

(32) d-ez  χir  d-e<r>q˘a-r-˘si
   ˘II.SG-1SG.DAT behind ˘II.SG-<IPFV>go-IPFV-CVB
   d-i
   ˘II.SG-be.PRS
She goes after me (male speaking)

The controller is the absolutive SUBJ argument expressed inflectionally
Lexical Entry (without PIVOT)

(33) \textit{b-ez} (me) \begin{align*}
&\uparrow \text{PRED} = \text{PRO}' \\
&\uparrow \text{NUM} = \text{SG} \\
&\uparrow \text{PERS} = 1 \\
&\uparrow \text{CASE} = \text{DAT} \\
&\text{((GF} \uparrow \text{) GF1) = AGRC} \\
&\text{(%AGRC CASE) = ABS} \\
&\text{@III.SG(%AGRC)}
\end{align*}
Lexical Entry (using PIVOT)

(34) \textit{b-ez} (me) \quad (\uparrow \text{PRED}) = 'PRO' \\
\quad (\uparrow \text{NUM}) = \text{SG} \\
\quad (\uparrow \text{PERS}) = 1 \\
\quad (\uparrow \text{CASE}) = \text{DAT} \\
\text{@III.SG( ( GF \uparrow ) PIV )}
Dative Oblique Object

(35)  d-ez \( \chi r \) \[d-e<q^f a-r-\tilde{s}i \]
    \text{II.SG-1SG.DAT} \quad \text{behind II.SG-<IPFV>go-IPFV-CVB}
    d-i
    \text{II.SG-be.PRS}
    \text{She goes after me (male speaking)}

The agreement target is the dative OBL OBJ (object of preposition), controller is the absolutive SUBJ argument.
we need to refine the definition of the PathOut:

\[ \text{@iii.sg}((\text{PathOut} \uparrow) \text{ piv}) \]
Background

Agreement in the Nominal Domain

Agreement in the Clausal Domain

Biabsolutive Constructions
Biabsolutes occur as an alternative to EA and DA alignments. Both ABS are full syntactic arguments. They are found only in periphrastic constructions involving the copula and a converb, and their distribution is conditioned by the form of the converb.

Biabsolutive clauses potentially contain two ABS agreement controllers. The converb agrees with the OBJ absolutive irrespective of whether the SUBJ is also ABS. However the copula agrees with the highest absolutive-marked GF.
Biabsolutives

Other agreement targets mainly agreement with the OBJ ABS (the PIV), however there appears to be some variability across context (for dative pronouns) and across context, lexeme and speakers for (the few) agreeing adverbs. Such agreement patterns seem to be independent of linear position. The emphatic particle does not vary as to controller.
Converbs and BAC

<table>
<thead>
<tr>
<th>Converb</th>
<th>Pres Cop</th>
<th>Past Cop</th>
<th>BAC</th>
<th>FEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPFV-ši</td>
<td>Pres1</td>
<td>Imperf1</td>
<td>BAC possible</td>
<td>IPFV.SIMUL</td>
</tr>
<tr>
<td>IPFV-mat</td>
<td>Pres2</td>
<td>Imperf2</td>
<td>BAC oblig</td>
<td>IPFV.CONT</td>
</tr>
<tr>
<td>PFV-li</td>
<td>Perf1</td>
<td>Pluperf1</td>
<td>BAC impos</td>
<td>PFV.CONSEC</td>
</tr>
<tr>
<td>PFV-mat</td>
<td>Perf2</td>
<td>Pluperf2</td>
<td>BAC impos</td>
<td>PFV.CONT</td>
</tr>
<tr>
<td>POT-ši</td>
<td>Inceptive</td>
<td>Past incept</td>
<td>BAC impos</td>
<td>POT.SIMUL</td>
</tr>
</tbody>
</table>
The choice between the Aux Feature analysis (the copula does not head its own f-structure) and the Aux \texttt{PRED} analysis (the copula has a \texttt{PRED} value and takes an \texttt{XCOMP} with \texttt{SUBJ} re-entrancy) is not crucial here.

I assume an Aux-feat approach, with the copula introducing values for \texttt{TNS} and the \texttt{CVB} values for \texttt{ASP}.
Ergative-Absolutive Converbs

(36) \text{et’ni-li} \quad (↑ \text{PRED}) = ‘\text{TIE}< \text{SUBJ, OBJ} >’
(↑ \text{ASP}) = \text{PFV.CONSEC}
(↑ \text{SUBJ CASE}) = \text{ERG}
(↑ \text{OBJ CASE}) = \text{ABS}
@\text{IV.SG}(↑ \text{PIV})
Obligatory BAC Converbs

(37) \( e< \text{r}> t’im-mat \)

\((\uparrow \text{PRED}) = ‘\text{TIE< SUBJ, OBJ >}’\)
\((\uparrow \text{ASP}) = \text{IPFV.CONT}\)
\((\uparrow \text{OBJ CASE}) = \text{ABS}\)
\{ \( (\uparrow \text{SUBJ CASE}) = \text{ABS} \land (\uparrow \text{TENSE}) \mid \)
\( (\uparrow \text{SUBJ CASE}) = \text{ERG} \land \neg (\uparrow \text{TENSE}) \} \)

@IV.SG(\uparrow \text{PIV} )

The \text{IPFV.CONT} convert verb in a periphrasis requires BAC
BAC is only possible in tensed clauses
Optional BAC Converbs

(38) \( e<r>t’i\-n-\dot{s}i \)

\[ (\uparrow \text{PRED}) = ‘\text{TIE}< \text{SUBJ OBJ }’ \]
\[ (\uparrow \text{ASP}) = \text{IPFV.SIMUL} \]
\[ (\uparrow \text{OBJ CASE}) = \text{ABS} \]
\[ \{ (\uparrow \text{SUBJ CASE}) = \text{ABS|ERG} \land (\uparrow \text{TENSE}) | \]
\[ (\uparrow \text{SUBJ CASE}) = \text{ERG} \land \neg (\uparrow \text{TENSE}) \} \]

\[ \text{@IV.SG}(\uparrow \text{PIV}) \]

It is likely that further (semantic/i-structure) information is associated with the mapping under which the \text{SUBJ} is in \text{ABS} case.
Copula

The copula agrees with the highest absolutive argument.

(39)  \begin{align*}
    \h i: I & \quad (\uparrow \text{TENSE}) = \text{PRES} \\
    \h ii: I & \quad (\uparrow \text{ASP}) \\
    \{(\uparrow \text{SUBJ CASE}) = \text{ABS} \land \theta \text{II.SG}(\uparrow \text{SUBJ}) \mid \}
    \{(\uparrow \text{SUBJ CASE}) = \neg \text{ABS} \land \theta \text{II.SG}(\uparrow \text{OBJ}) \} 
\end{align*}
### Summary: Agreement Templates

<table>
<thead>
<tr>
<th>Category</th>
<th>Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb, Converb, Pred Adj</td>
<td>@IV.SG(↑ PIV)</td>
</tr>
<tr>
<td>Exceptional Targets</td>
<td>@IV.SG(( PATHOUT ↑) PIV)</td>
</tr>
<tr>
<td>Copula</td>
<td>@IV.SG(↑ SUBJ</td>
</tr>
<tr>
<td>Pronominal Possessors</td>
<td>@IV.SG(POSS ↑)</td>
</tr>
<tr>
<td>Attributives</td>
<td>@IV.SG(ADJ ∈ ↑)</td>
</tr>
<tr>
<td>Demonstratives</td>
<td>@IV.SG(↑)</td>
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</table>
References


